

ORDER NO. KMS0103100S2

# Service Manual

DIGITAL PROPRIETARY TELEPHONE

**KX-T7531JT / KX-T7531JT-B  
(for Italy)**

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Note:Supplement-1~2 have already supplied with printed matter. So please refer to that.

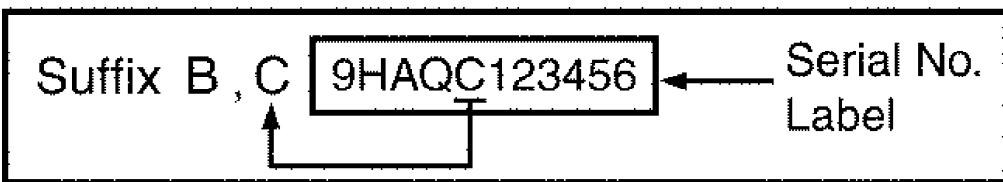
## 1. CHANGES

### 1.1. Subject

Suffix	Reason for suffix change
B → C	Apply to the New EMC Standards. (There is no change in the replacement parts list.)

### 1.2. Suffix location

(Example)



### 1.3. REPLACEMENT PARTS LIST

Reason for Change (Symbol:A) Following 1-8 reasons are indicated on the Notes in the bottom column.	
1. Improve performance	Remark:
2. Change of material or dimension	1. Mark *1 has been corrected at Ref No.28 → 20 Simplified (KMS9904393A2).
3. To meet approved specification	2. Mark *2 has been corrected at Ref No.28 → 20 Supplement-2 (KMS0009958S2).
4. Standardization	3. Mark *3 has been changed at the same time.
5. Addition	4. Mark *4 has been changed at the same time.
6. Deletion	
7. Correction	
8. Other	

Interchangeability Code (Symbol:B) Following V-Z interchangeabilities are indicated on the Notes bottom column.

Parts	Set Production	
V Original  New	Early (before change) Late (after change)	Original or new parts may be used in early or late production sets only. Use original parts until exhausted, then stock new parts.
W Original  New	Early (before change) Late (after change)	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X Original  New	Early (before change) Late (after change)	New parts only may be used in early or late production sets only. Stock new parts.
Y Original  New	Early (before change) Late (after change)	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both old and new parts.
Z Other		

KX-T7531JT, KX-T7531JT-B

Ref. No.	Parts No.		Part Name & description	Pcs	Remarks	Notes
	Original Part	New part				
<b>CABINET AND ELECTRICAL PARTS</b>						
28 → 20	PSSX1010Z	PSSX1010Y	KEY SWITCH	1	*1	7
28 → 20	PSSX1010Y	PSSX1010X	KEY SWITCH	1	*2	7
<b>MAIN BOARD PARTS</b>						
C20	PQCUVIH080DC	PQCUV1H180JC	CAPACITOR, 18pF	1	*3	8 V
C21	PQCUVIH470JC	PQCUV1H180JC	CAPACITOR, 18pF	1	*3	8 V
X2	PSVCCR1638B7	PSVCC0025GT	CRYSTAL OSCILLATOR	1	*3	8 V
R61	ERJ3GEYJ102	ERJ3GEYJ561	RESISTOR, 560 Ω	1	*4	8 V
<b>LCD BOARD PARTS</b>						
E1	EDD103U36AAG	PSADMCRS0466	LIQUID CRYSTAL DISPLAY	1	*4 See Fig. 1	8 V

#### 1.4. MARKING OF THE LCD (DIFFERENT INDICATION)

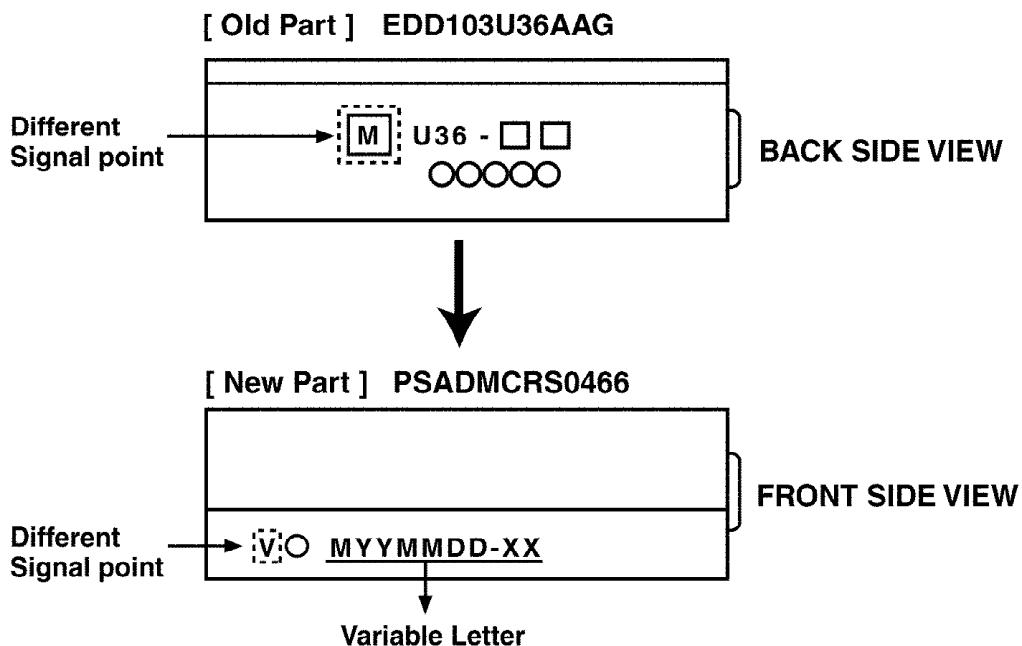


Fig. 1

N.T. / KXT7531JT / KXT7531JTB

ORDER NO. KMS0103092S3

# Service Manual

DIGITAL PROPRIETARY TELEPHONE



**KX-T7531LA / KX-T7531LA-B / KX-T7533LA / KX-T7533LA-B /  
KX-T7536LA / KX-T7536LA-B / KX-T7550LA / KX-T7550LA-B  
(for Latin America)**

Please file and use this supplement manual together with the Service Manual is mentioned below.

## SPECIFICATIONS

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### WARNING

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## 1. CHANGES

### 1.1. Subject

KX-T7531LA, T7531LA-B

Suffix	Reason for suffix change
D → E	Apply to the R & TTE Standards.
E → F	Apply to the New EMC Standards. (There is no change in the replacement parts list.)

KX-T7533LA, T7533LA-B, KX-T7536LA, T7536LA-B

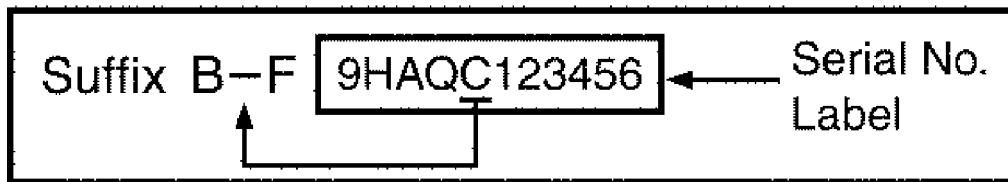
Suffix	Reason for suffix change
B → C	Apply to the R & TTE Standards.
C → D	Apply to the New EMC Standards. (There is no change in the replacement parts list.)

KX-T7550LA, T7550LA-B

Suffix	Reason for suffix change
C → D	Apply to the R & TTE Standards.
D → E	Apply to the New EMC Standards. (There is no change in the replacement parts list.)

## 1.2. Suffix location

(Example)



## 1.3. REPLACEMENT PARTS LIST

Reason for Change (Symbol:A) Following 1-8 reasons are indicated on the Notes in the bottom column	
1. Improve performance	Remark:
2. Change of material or dimension	1. Mark *1 has been changed at the same time. 2. Mark *2 has been changed at the same time.
3. To meet approved specification	3. Mark *3 has been changed at the same time.
4. Standardization	4. Mark *4 has been changed at the same time.
5. Addition	5. Mark *5 has been changed at the same time.
6. Deletion	6. Mark *6 has been changed at the same time.
7. Correction	7. Mark *7 has been changed at the same time.
8. Other	

**Interchangeability Code (Symbol:B) Following V-Z interchangeabilities are indicated on the Notes in bottom column.**

Parts	Set Production	
V Original New	Original  Early (before change) New  Late (after change)	Original or new parts may be used in early or late product. Use original parts until exhausted, then stock new parts.
W New	Original  Early (before change) New  Late (after change)	Original parts may be used in early production sets only. parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X Original New	Original  Early (before change) New  Late (after change)	New parts only may be used in early or late production sets. Stock new parts.
Y New	Original  Early (before change) New  Late (after change)	Original parts may be used in early production sets only. parts may be used in late production sets only. Stock both old and new parts.
Z Other		

KX-T7531LA, KX-T7531LA-B

Ref. No.	Parts No.		Part Name & description	Pcs	Remarks	Notes	.
	Original Part	New part					
<b>CABINET AND ELECTRICAL PARTS</b>							
20	PSSX1010Y	PSSX1010X	KEY SWITCH	1		1	V
<b>ACCESSORIES AND PACKING MATERIALS</b>							
	PSQX1691X	PSQX1691W	INSTRUCTION BOOK	1		8	X
A5	PSQX1613X	PSQX1613W	INSTRUCTION BOOK	1		8	X
<b>MAIN BOARD PARTS</b>							
C20	PQCUVIH080DC	PQCUV1H180JC	CAPACITOR, 18pF	1	*2	8	V
C21	PQCUVIH470JC	PQCUV1H180JC	CAPACITOR, 18pF	1	*2	8	V
X2	PSVCCR1638B7	PSVCC0025GT	CRYSTAL OSCILLATOR	1	*2	8	V
R61	ERJ3GEYJ102	ERJ3GEYJ561	RESISTOR, 560 Ω	1	*3	8	V
<b>LCD BOARD PARTS</b>							
E1	EDD103U36AAG	PSADMCRS0466	LIQUID CRYSTAL DISPLAY	1	*3 See Fig.1	8	V

KX-T7533LA, KX-T7533LA-B

Ref. No.	Parts No.		Part Name & description	Pcs	Remarks	Notes	.
	Original Part	New part					
<b>CABINET AND ELECTRICAL PARTS</b>							
20	PSSX1010Y	PSSX1010X	KEY SWITCH	1		1	V
28	PSSX1007Z	PSSX1007Y	KEY SWITCH	1		8	V
<b>ACCESSORIES AND PACKING MATERIALS</b>							
	PSQX1691X	PSQX1691W	INSTRUCTION BOOK	1		8	X
A5	PSQX1613X	PSQX1613W	INSTRUCTION BOOK	1		8	X
<b>MAIN BOARD PARTS</b>							
C18	ECUV1H080DCV	ECUV1H180JCV	CAPACITOR, 18pF	1	*4	8	V
C19	ECUV1H470JCV	ECUV1H180JCV	CAPACITOR, 18pF	1	*4	8	V
X1	PSVCCR1638B7	PSVCC0025GT	CRYSTAL OSCILLATOR	1	*4	8	V
X2	PSVCCR1228B7	PSVCC0031GT	CRYSTAL OSCILLATOR	1	*4	8	V
R106	ERJ3GEYJ154	ERJ3GEYJ274	RESISTOR, 270k Ω	1	*5	8	V
R108	ERJ3GEYJ563	ERJ3GEYJ104	RESISTOR, 100k Ω	1	*5	8	V
R114	ERJ3GEYJ102	ERJ3GEYJ152	RESISTOR, 1.5k Ω	1	*5	8	V
<b>LCD BOARD PARTS</b>							
E1	EDD104U32AAG	PSADMCRS0465	LIQUID CRYSTAL DISPLAY	1	*5 See Fig.2	8	V
E3	PSHR1132Z	PSHR1132Y	GUIDE	1		8	V

**KX-T7536LA, KX-T7536LA-B**

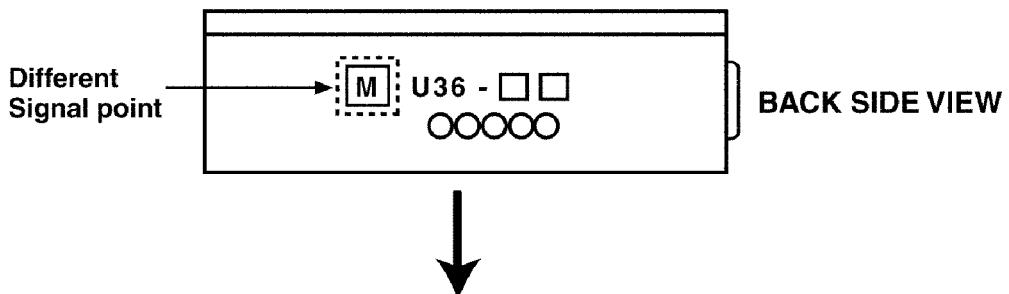
Ref. No.	Parts No.		Part Name & description	Pcs	Remarks	Notes	.
	Original Part	New part					
<b>CABINET AND ELECTRICAL PARTS</b>							
20	PSSX1010Y	PSSX1010X	KEY SWITCH	1		1	V
28	PSSX1008Z	PSSX1008Y	KEY SWITCH	1		8	V
<b>ACCESSORIES AND PACKING MATERIALS</b>							
	PSQX1691X	PSQX1691W	INSTRUCTION BOOK	1		8	X
A5	PSQX1613X	PSQX1613W	INSTRUCTION BOOK	1		8	X
<b>MAIN BOARD PARTS</b>							
C18	ECUV1H080DCV	ECUV1H180JCV	CAPACITOR, 18pF	1	*6	8	V
C19	ECUV1H470JCV	ECUV1H180JCV	CAPACITOR, 18pF	1	*6	8	V
X1	PSVCCR1638B7	PSVCC0025GT	CRYSTAL OSCILLATOR	1	*6	8	V
X2	PSVCCR1228B7	PSVCC0031GT	CRYSTAL OSCILLATOR	1	*6	8	V
<b>LCD BOARD PARTS</b>							
E3	PSHR1133Z	PSHR1133Y	GUIDE	1		8	V

**KX-T7550LA, KX-T7550LA-B**

Ref. No.	Parts No.		Part Name & description	Pcs	Remarks	Notes	.
	Original Part	New part					
<b>CABINET AND ELECTRICAL PARTS</b>							
18	PSSX1010Y	PSSX1010X	KEY SWITCH	1		1	V
<b>ACCESSORIES AND PACKING MATERIALS</b>							
A4	PSQX1613X	PSQX1613W	INSTRUCTION BOOK	1		8	X
A5	PSQX1691X	PSQX1691W	INSTRUCTION BOOK	1		8	X
<b>MAIN BOARD PARTS</b>							
C20	PQCUVIH080DC	PQCUV1H180JC	CAPACITOR, 18pF	1	*7	8	V
C21	PQCUVIH470JC	PQCUV1H180JC	CAPACITOR, 18pF	1	*7	8	V
X2	PSVCCR1638B7	PSVCC0025GT	CRYSTAL OSCILLATOR	1	*7	8	V

#### 1.4. MARKING OF THE LCD (DIFFERENT INDICATION)

[ Old Part ] EDD103U36AAG



[ New Part ] PSADMCRS0466

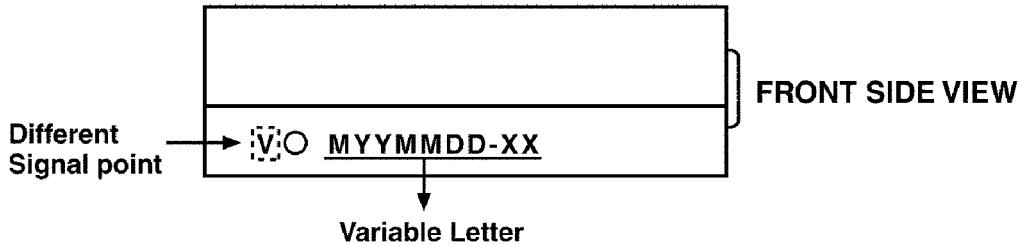


Fig. 1

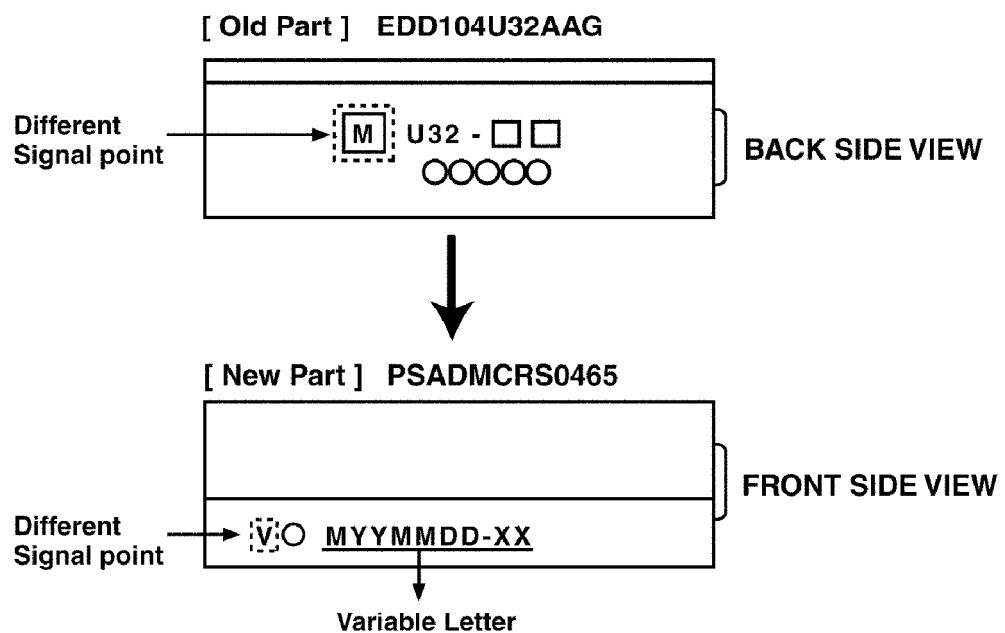


Fig. 2

N.T. / KXT7531LA, KX-T7531LAB / KXT7533LA, KX-T7533LAB /  
KXT7536LA, KX-T7536LAB / KXT7550LA, KX-T7550LAB

# Service Manual

DIGITAL PROPRIETARY TELEPHONE  
FOR DIGITAL SUPER HYBRID SYSTEM

**KX-T7533G**

White Version

**KX-T7533G-B**

Black Version

(for Germany)



## ■ SPECIFICATIONS

Station Loop Limit:	40 ohms
Cabling Method:	2 pair wire
Jacks:	PABX, Handset/Headset, Telephone
Display:	16 digits (max.)
Dimensions:	224 (W)×88 (H)×265 (D) mm with handset
Weight:	1.2 kg

Design and specifications are subject to change without notice.

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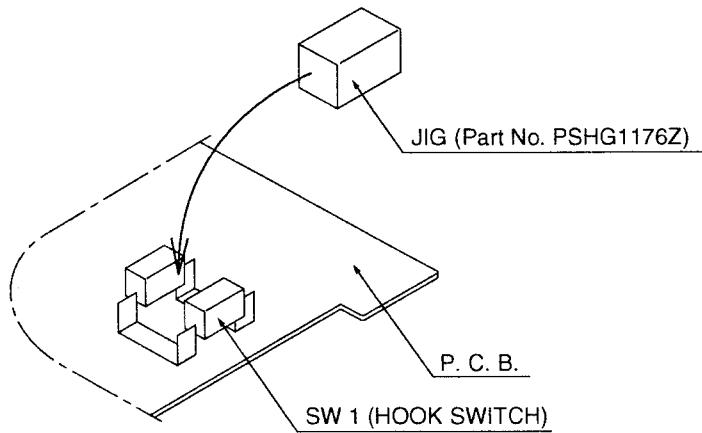
When you note the serial number, write down all of the 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

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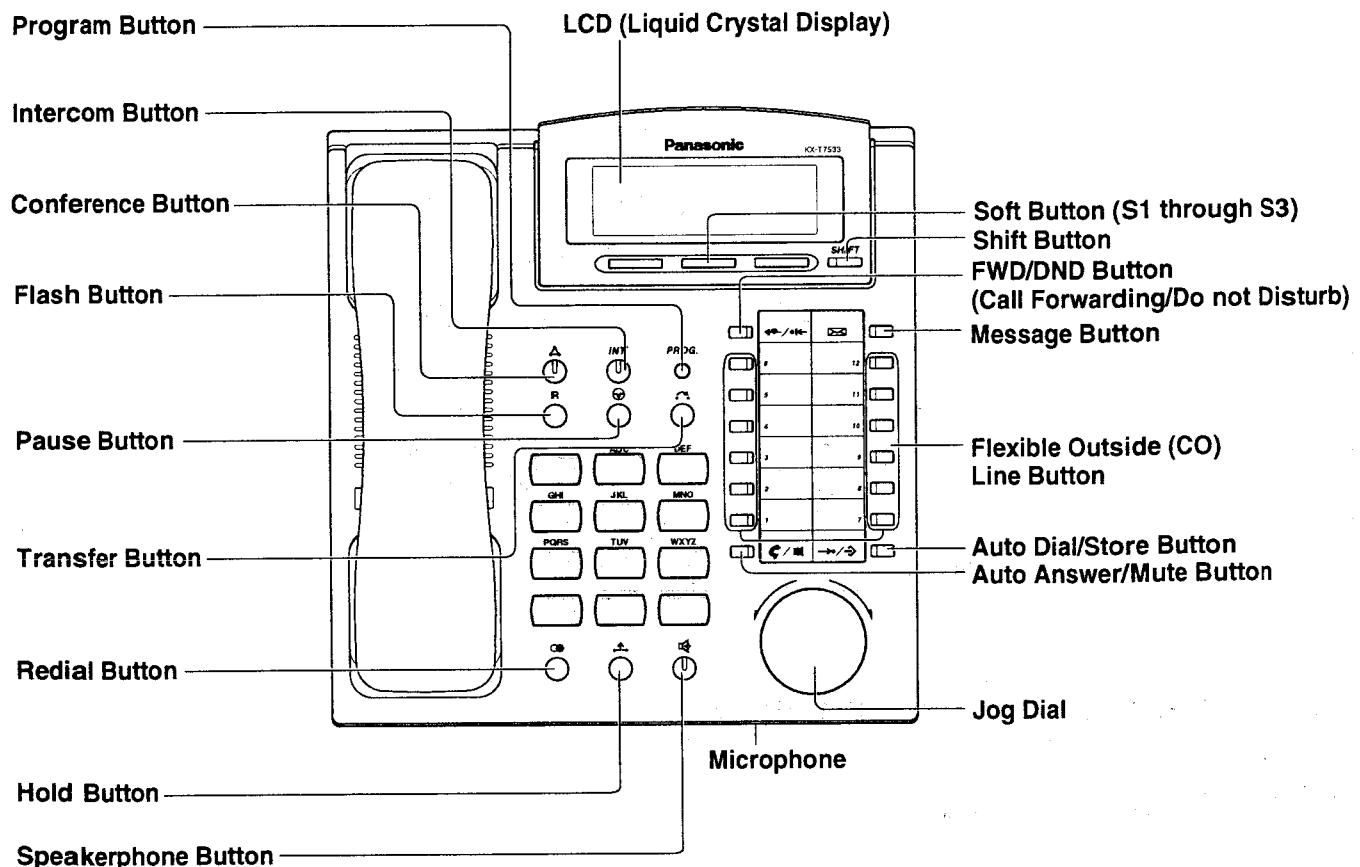
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## FOR SERVICE TECHNICIANS

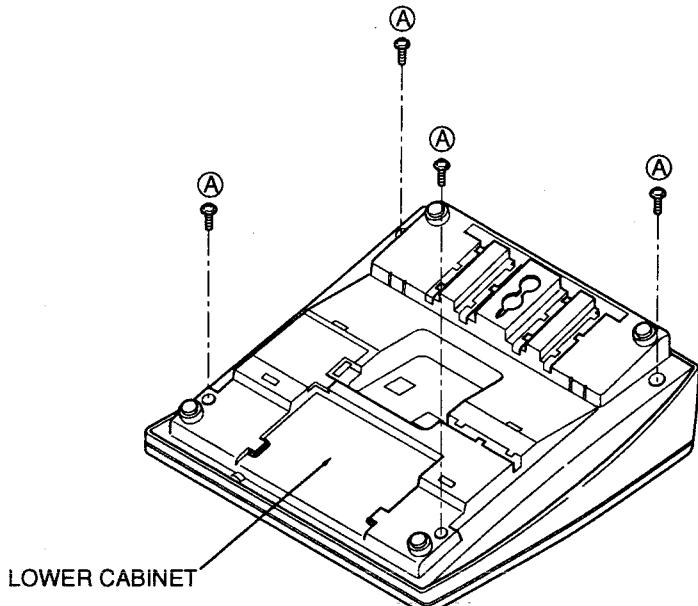
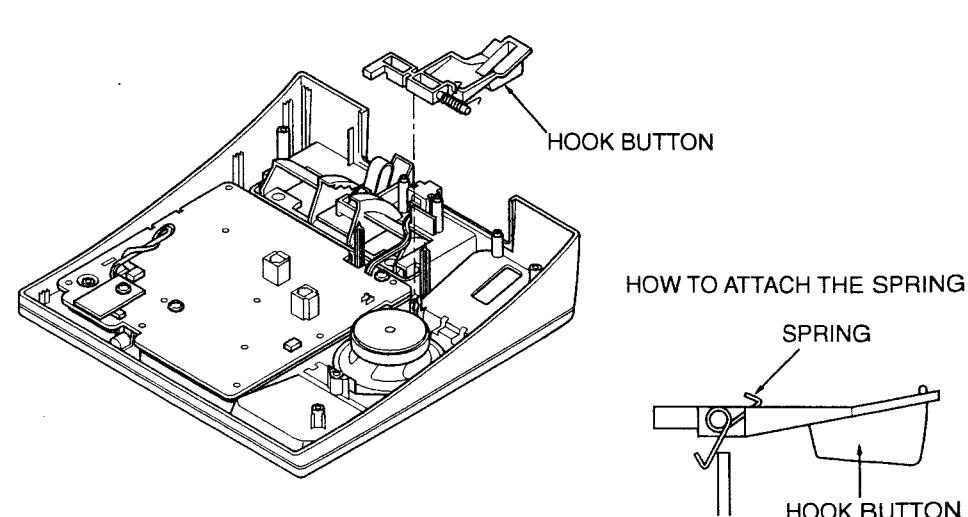
1. Note the following items when exchanging the LEDs (Ref. No. D100-117, 130, 201) of Dial P.C. Board.
  - 1) Do not reuse a LED which is removed from the P.C. Board.
  - 2) Use a soldering iron (less than 15 W) for exchanging LED.
  - 3) Do not heat the LED for more than 2 seconds.
  - 4) Do not move the LED after soldering.
2. This unit employs the switch which is influenced by the light for the hook switch. When you open the cabinet to repair the unit in the bright light, the hook switch might work improperly. Therefore, take care not to shine the hook switch directly, or use the jig as shown below.



## LOCATION OF CONTROLS



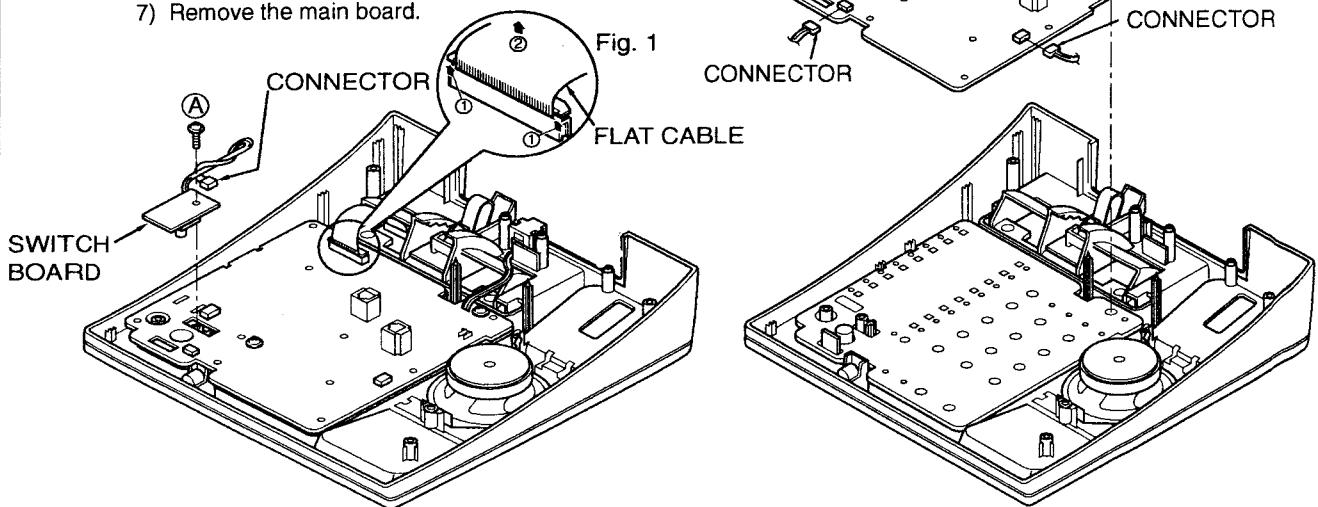
## DISASSEMBLY INSTRUCTIONS

No. 1	<b>HOW TO REMOVE THE LOWER CABINET</b>
Procedure 1	<p>1) Remove the 4 screwsⒶ. 2) Remove the lower cabinet.</p> 
No. 2	<b>HOW TO REMOVE THE HOOK BUTTON</b>
Procedure 1→2	<p>1) Remove the hook button.</p> 

No. 3

**HOW TO REMOVE THE SWITCH AND MAIN BOARDS**Procedure  
1→2→3

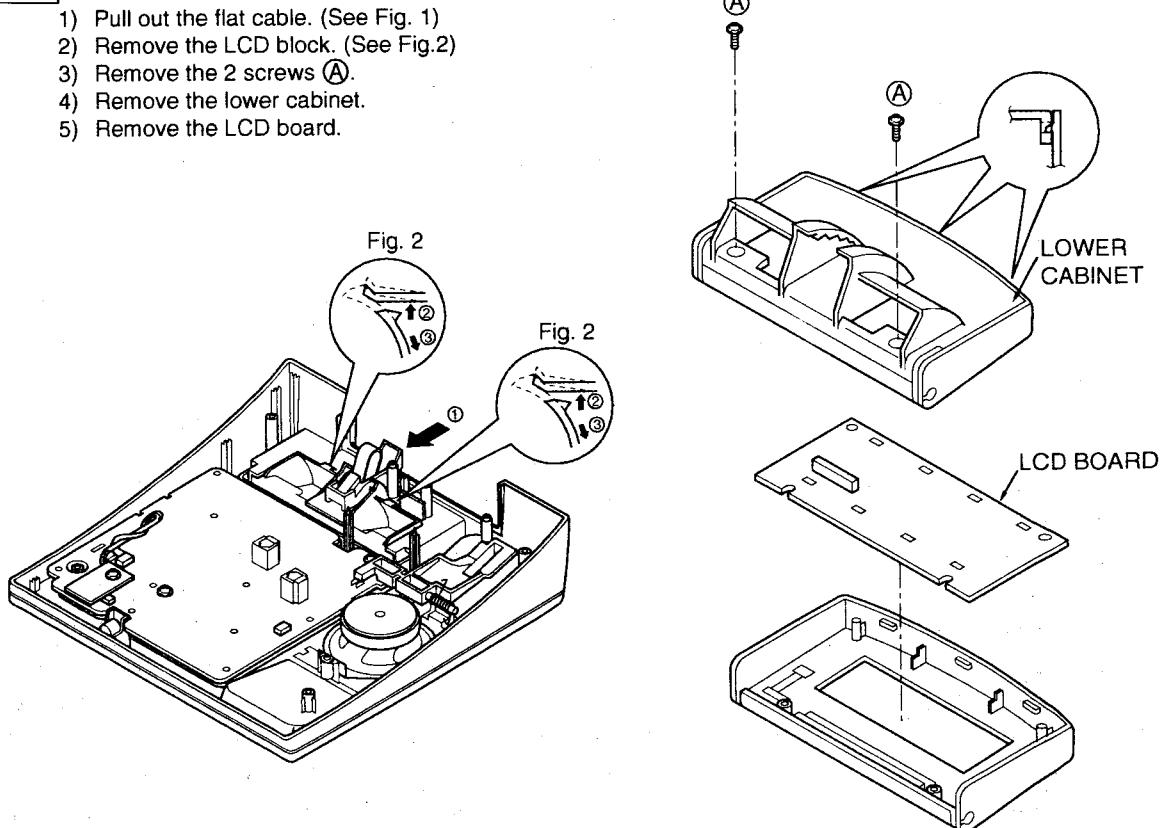
- 1) Remove the screw①.
- 2) Pull out the switch board connector.
- 3) Remove the switch board.
- 4) Pull out the flat cable.
- 5) Remove the 2 screws②.
- 6) Pull out the speaker and microphone connectors.
- 7) Remove the main board.



No. 4

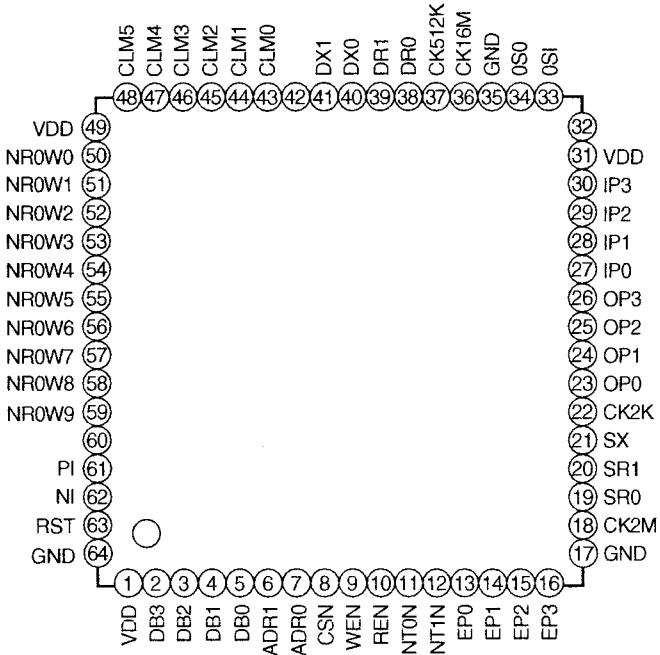
**HOW TO REMOVE THE LCD BOARD**Procedure  
1→4

- 1) Pull out the flat cable. (See Fig. 1)
- 2) Remove the LCD block. (See Fig. 2)
- 3) Remove the 2 screws ①.
- 4) Remove the lower cabinet.
- 5) Remove the LCD board.



## IC DATA

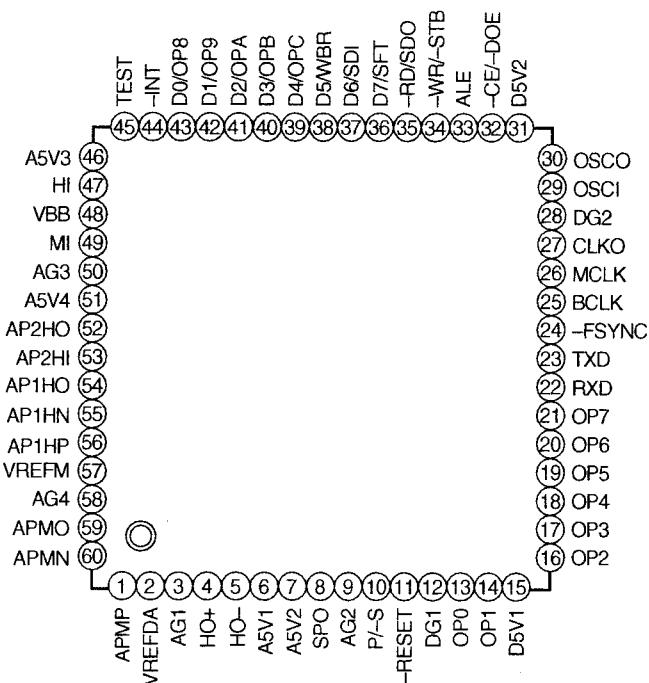
## 1. IC1



Name	Pin	Dir.	Pull Up	Type	Io	Act.	Block	MHz	Descriptions
DB3	2	bidir	---	TTL	8.0mA	high	PT5B03	2.0	Data Bus [3]
DB2	3	bidir	---	TTL	8.0mA	high	PT5B03	2.0	Data Bus [2]
DB1	4	bidir	---	TTL	8.0mA	high	PT5B03	2.0	Data Bus [1]
DB0	5	bidir	---	TTL	8.0mA	high	PT5B03	2.0	Data Bus [0]
ADR1	6	input	12-38k	TTL	---	high	PT5D01U	2.0	Address Bus [1]
ADR0	7	input	12-38k	TTL	---	high	PT5D01U	2.0	Address Bus [0]
CSN	8	input	---	TTL	---	low	PT5D01	1.0	Chip Select
REN	10	input	12-38k	TTL	---	low	PT5D01U	2.0	Read Enable Command
WEN	9	input	12-38k	TTL	---	low	PT5D01U	2.0	Write Enable Command
RST	63	input	---	CMOS schmidt	---	high	PC5D21	0.01	Asynchronous Reset Input
INTON	11	output	---	CMOS	2.0mA	low	PC5O01	0.01	Interrupt Request
INT1N	12	output	---	CMOS	2.0mA	low	PC5O01	0.01	Interrupt Request
DRO	38	input	---	CMOS	---	low	PC5D01	0.6	Dpts Receive Data [1]
DR1	39	input	---	CMOS	---	low	PC5D01	0.6	Dpts Receive Data [0]
DXO	40	output	---	CMOS	4.0mA	low	PC5O02	0.6	Dpts Transmit Data [1]
DX1	41	output	---	CMOS	4.0mA	low	PC5O02	0.6	Dpts Transmit Data [0]
CK512K	37	output	---	CMOS	2.0mA	high	PC5O01	0.6	Dpts Bit Rate Clock
SRO	19	input	12-38k	TTL	---	high	PT5D01U	0.1	Serial Receive Data Stream [0]
SR1	20	input	12-38k	TTL	---	high	PT5D01U	0.1	Serial Receive Data Stream [1]
SX	21	output	---	CMOS	4.0mA	high	PC5O02	0.1	Serial Transmit Data Stream
CK2M	18	output	---	CMOS	4.0mA	high	PC5O02	2.1	Serial Stream Clock
EPO	13	output	---	CMOS	2.0mA	high	PC5O01	0.01	External Channel Pulse [0]
EP1	14	output	---	CMOS	2.0mA	high	PC5O01	0.01	External Channel Pulse [1]
EP2	15	output	---	CMOS	2.0mA	high	PC5O01	0.01	External Channel Pulse [2]

Name	Pin	Dir.	Pull Up	Type	I <sub>o</sub>	Act.	Block	MHz	Descriptions
EP3	16	output	---	CMOS	2.0mA	high	PC5O01	0.01	External Channel Pulse [3]
PI	61	input	---	CMOS schmidt	---	high	PC5D21	0.01	Rotary Encoder Input [Pos]
NI	62	input	---	CMOS schmidt	---	high	PC5D21	0.01	Rotary Encoder Input [Neg]
CLM0	43	output	---	CMOS	4.0mA	high	PC5O02	0.01	LED Column Drive [0]
CLM1	44	output	---	CMOS	4.0mA	high	PC5O02	0.01	LED Column Drive [1]
CLM2	45	output	---	CMOS	4.0mA	high	PC5O02	0.01	LED Column Drive [2]
CLM3	46	output	---	CMOS	4.0mA	high	PC5O02	0.01	LED Column Drive [3]
CLM4	47	output	---	CMOS	4.0mA	high	PC5O02	0.01	LED Column Drive [4]
CLM5	48	output	---	CMOS	4.0mA	high	PC5O02	0.01	LED Column Drive [5]
NROW0	50	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [0]
NROW1	51	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [1]
NROW2	52	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [2]
NROW3	53	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [3]
NROW4	54	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [4]
NROW5	55	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [5]
NROW6	56	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [6]
NROW7	57	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [7]
NROW8	58	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [8]
NROW9	59	output	---	CMOS	4.0mA	low	PC5O02	0.01	LED Row Drive [9]
IP0	27	input	12-38k	CMOS	---	high	PC5D01U	0.01	Input Port [0]
IP1	28	input	12-38k	CMOS	---	high	PC5D01U	0.01	Input Port [1]
IP2	29	input	12-38k	CMOS	---	high	PC5D01U	0.01	Input Port [2]
IP3	30	input	12-38k	CMOS	---	high	PC5D01U	0.01	Input Port [3]
OP0	23	output		CMOS	4.0mA	high	PC5O02	0.01	Output Port [0]
OP1	24	output		CMOS	4.0mA	high	PC5O02	0.01	Output Port [1]
OP2	25	output		CMOS	4.0mA	high	PC5O02	0.01	Output Port [2]
OP3	26	output		CMOS	4.0mA	high	PC5O02	0.01	Output Port [3]
CK2K	22	output		CMOS	4.0mA	high	PC5O02	0.20	2kHz Clock Output (duty 25%)
CK16M	36	output	---	CMOS	2.0mA	high	PC5O01	16.4	Master Clock Out
OSI	33	input	---	Analog	---	---	PC5X02	16.4	X'tal In (XIN)
OSO	34	output	---	Analog	---	---	PC5X02	16.4	X'tal Out (XOUT)
N.C.	32								not used
N.C.	42								not used
N.C.	60								not used
VDD1	1	vdd							Vdd (5V)
VDD2	31	vdd							Vdd (5V)
VDD3	49	vdd							Vdd (5V)
VSS1	17	vss							Vss (GND)
VSS2	35	vss							Vss (GND)
VSS3	64	vss							Vss (GND)

## 2. IC2



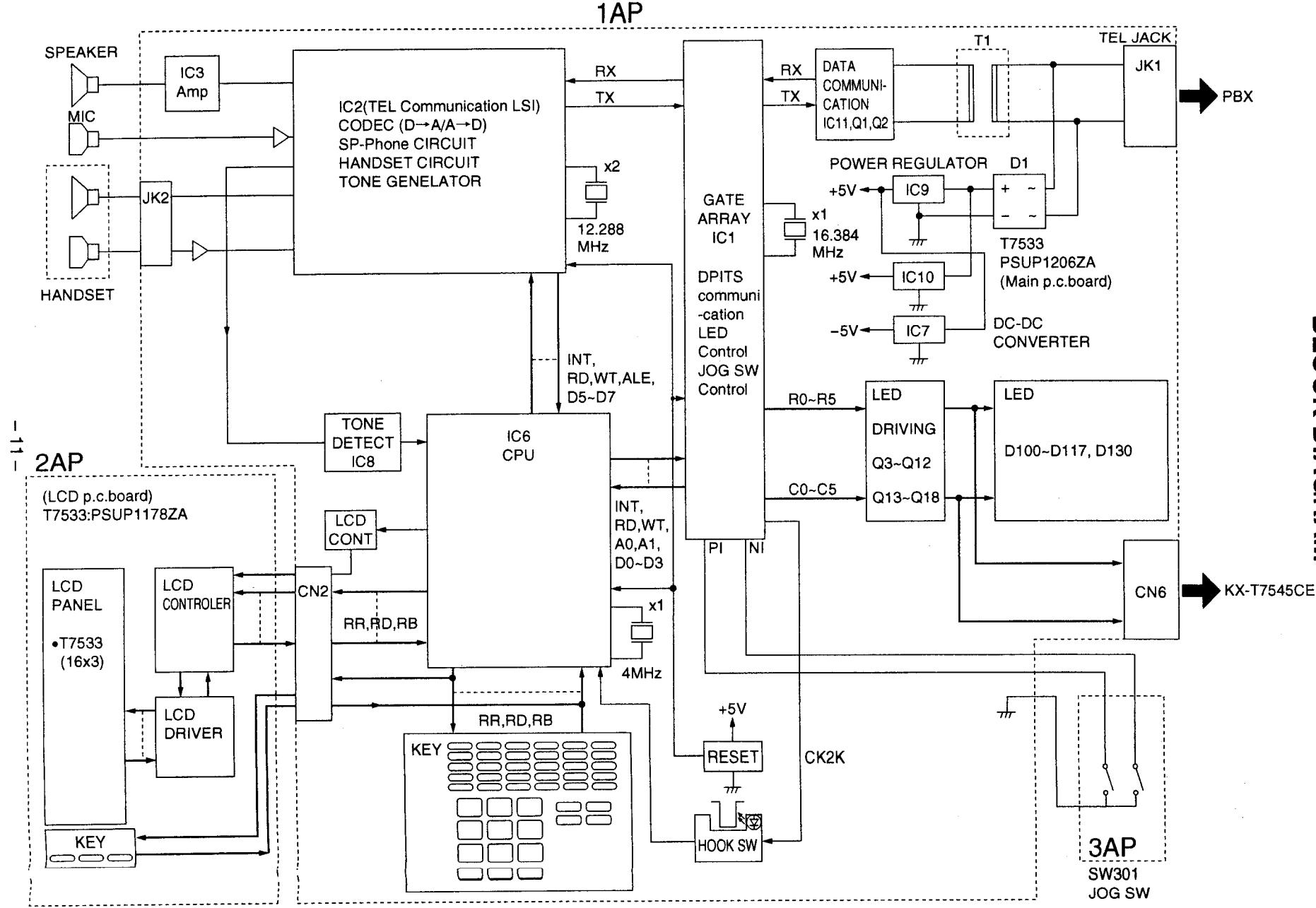
Name	NO.	I/O	Classification	Function
APMP	1	Analog input	Analog	Non-inverting input terminal of microphone amplifier M1. Connect to the microphone.
VREFDA	2	---	Power supply, etc.	Reference voltage terminal of DAC. Connect the capacitor of 40μF between this terminal and pin 9(AG2).
AG1	3			Ground terminal of the analog circuit.
HO+	4	Analog output	Analog	Output terminal for the handset receiver. HO+ terminal and HO- terminal are biased to Vdd/2 voltage. HO- terminal is the inverse porality output terminal for pin 4 (HO+). Connect the capacitor in series between the handset and these terminals to cut the DC . Use the nonpolar type capacitor.
HO-	5			
A5V1	6	---	Power supply, etc.	5V power supply terminal of analog circuit.
A5V2	7			
SPO	8	Analog output	Analog	Output terminal for the speaker amplifier. Connect to the external speaker amplifier input terminal. SPO terminal is biased to Vdd/2 voltage. Connect the capacitor of 0.1μF in series between the external speaker amplifier input terminal and this terminal.
AG2	9	---	Power supply, etc.	Ground terminal of the analog circuit.
P-S	10	CMOS input	Micro-computer interface	Mode selection terminal of microcomputer interface. Inputting "0" selects the serial mode, and "1" selects the parallel mode.
-RESET	11			System reset terminal. The system is reset when "0" is pressed.
DG1	12	---	Power Supply, etc.	Ground terminal of the digital circuit.

Name	NO.	I/O	Classification	Function
OP0	13	3 states output	Output port	Outputs BIT0 signal of OPORT1 resistor.
OP1	14			Outputs BIT1 signal of OPORT1 resistor.
D5V1	15	---	Power Supply, etc.	5V power supply terminal of digital circuit.
OP2	16	3 states output	Output port	Outputs BIT2 signal of OPORT1 resistor.
OP3	17			Outputs BIT3 signal of OPORT1 resistor.
OP4	18			Outputs BIT4 signal of OPORT1 resistor.
OP5	19			Outputs BIT5 signal of OPORT1 resistor.
OP6	20			Outputs BIT6 signal of OPORT1 resistor.
OP7	21			Outputs BIT7 signal of OPORT1 resistor.
RXD	22	TTL input		Input terminal for PCM data
TXD	23	Output	PCM interface	Output terminal for PCM data
-FSYNC	24	TTL input		Input terminal of Sync. signal for PCM interface. The frequency of input sync. signal is 8 kHz.
BCLK	25	Input terminal of shift clock pulse for PCM data. Input pulse frequency range is 64 kHz~2.048 MHz. PCM data (TXD terminal signal) is output at the positive edge. PCM data (RXD terminal signal) is sampled at the negative edge. The sampling is performed inside LSI.		
MCLK	26	Output	Clock	Clock pulse output terminal. Output pulse frequency is 6.144MHz. System reset (inputting "0" to -RESET terminal) doesn't stop this output.
CLKO	27			Clock pulse output terminal which has selective frequencies. The following 4 frequencies can be selected by resistor setting: 12.228, 4.096, 2.048, 1.536 (MHz) System reset (inputting "0" to -RESET terminal) selects the frequency of 1.536MHz and doesn't stop this output.
DG2	28	---	Power supply, etc.	Ground terminal of digital circuit.
OSCI	29	---	Clock	Input terminal of oscillation circuit. Connect the oscillator and resistor between this terminal and pin 30(OSCO), moreover, connect the capacitor between this terminal and digital ground to make the oscillation circuit.
OSCO	30	---		Output terminal of oscillation circuit. Connect the oscillator and resistor between this terminal and pin 29 (OSCI), moreover, connect the capacitor between this terminal and digital ground to make the oscillation circuit.
D5V2	31	---		5V power supply terminal of digital circuit.
-INT	44	Output	Micro-computer interface	Outputs 8 kHz clock pulse which is synchronized with -FSYNC.
TEST	45	CMOS input	Power supply, etc.	Test terminal Connect to the digital ground.
A5V3	46	---		5V power supply terminal of analog circuit.
HI	47	Analog input	Analog	Input terminal of TX handset signal. Either this signal or the signal supplied to pin 49 (HI) is input to AD converter.
VBB	48	---	Power supply, etc.	Reference voltage terminal of AD converter. Connect the capacitor of 10μF between VBB terminal and pin 50 (AG3).

**KX-T7533G/KX-T7533G-B**

Name	NO.	I/O	Classification	Function
MI	49	Analog input	Analog	Input terminal of TX microphone signal. Either this signal or the signal supplied to pin 47 (HI) is input to AD converter.
AG3	50	---	Power supply, etc.	Ground terminal of analog circuit.
A5V4	51			5V power terminal of analog circuit.
AP2HO	52	Analog output	Analog	Output terminal of microphone amplifier H2. Connect the capacitor of 0.1μF to this terminal to cut the DC.
AP2HI	53	Analog input		Inverting input terminal of microphone amplifier H2. Connect the capacitor of 0.1μF to this terminal to cut the DC.
AP1HO	54	Analog output		Output terminal of microphone amplifier H1. Connect the capacitor of 0.1μF to this terminal to cut the DC.
AP1HN	55	Analog input		Inverting input terminal of microphone amplifier H1. Connect to the handset.
AP1HP	56	Analog input		Non-inverting input terminal of microphone amplifier H1.
VREFM	57	---	Power supply, etc.	Reference voltage terminal of microphone amplifier. Connect the capacitor of 40 μF between this terminal and pin 56 (MICG).
AG4	58			Ground terminal of analog circuit.
APMO	59	Analog output	Analog	Output terminal of microphone amplifier. Connect the capacitor of 0.1μF to this terminal to cut the DC.
APMN	60	Analog input		Non-inverting input terminal of microphone amplifier M.

## BLOCK DIAGRAM



**KX-T7533G/KX-T7533G-B**

## CIRCUIT OPERATIONS

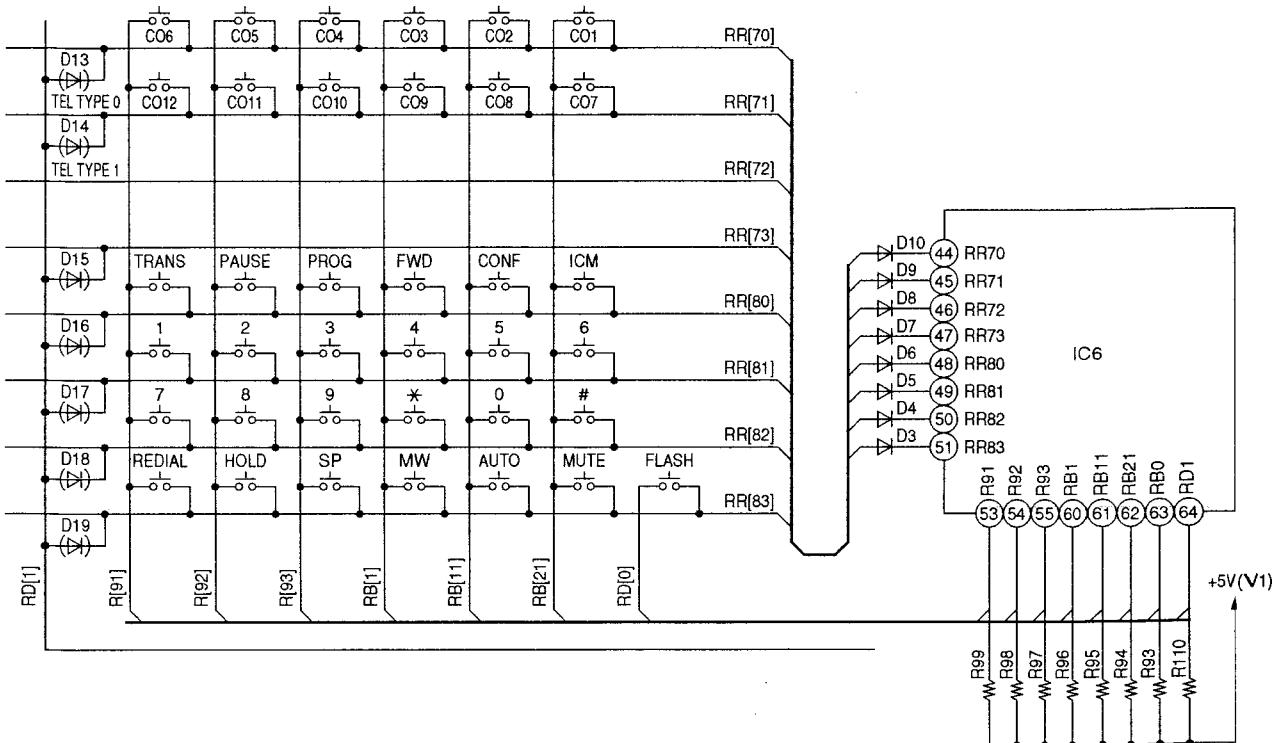
### 1. KEY INPUT CONTROL CIRCUIT

#### 1) Circuit Operation

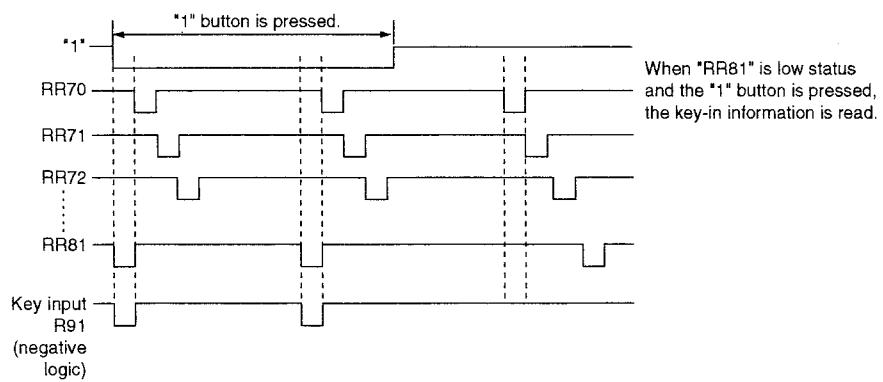
Sequential input information (negative logic) from the DSHS proprietary telephone is executed by dynamic scanning. The ports RR70 to RR73, RR80 to RR83 of IC8 are brought to low status consecutively.

If a key is pressed, the key-in information input is executed by ports R91 to R93, RB1, RB11, RB21, RB0, RD1.

Circuit Diagram



Key Input Control Timing Chart

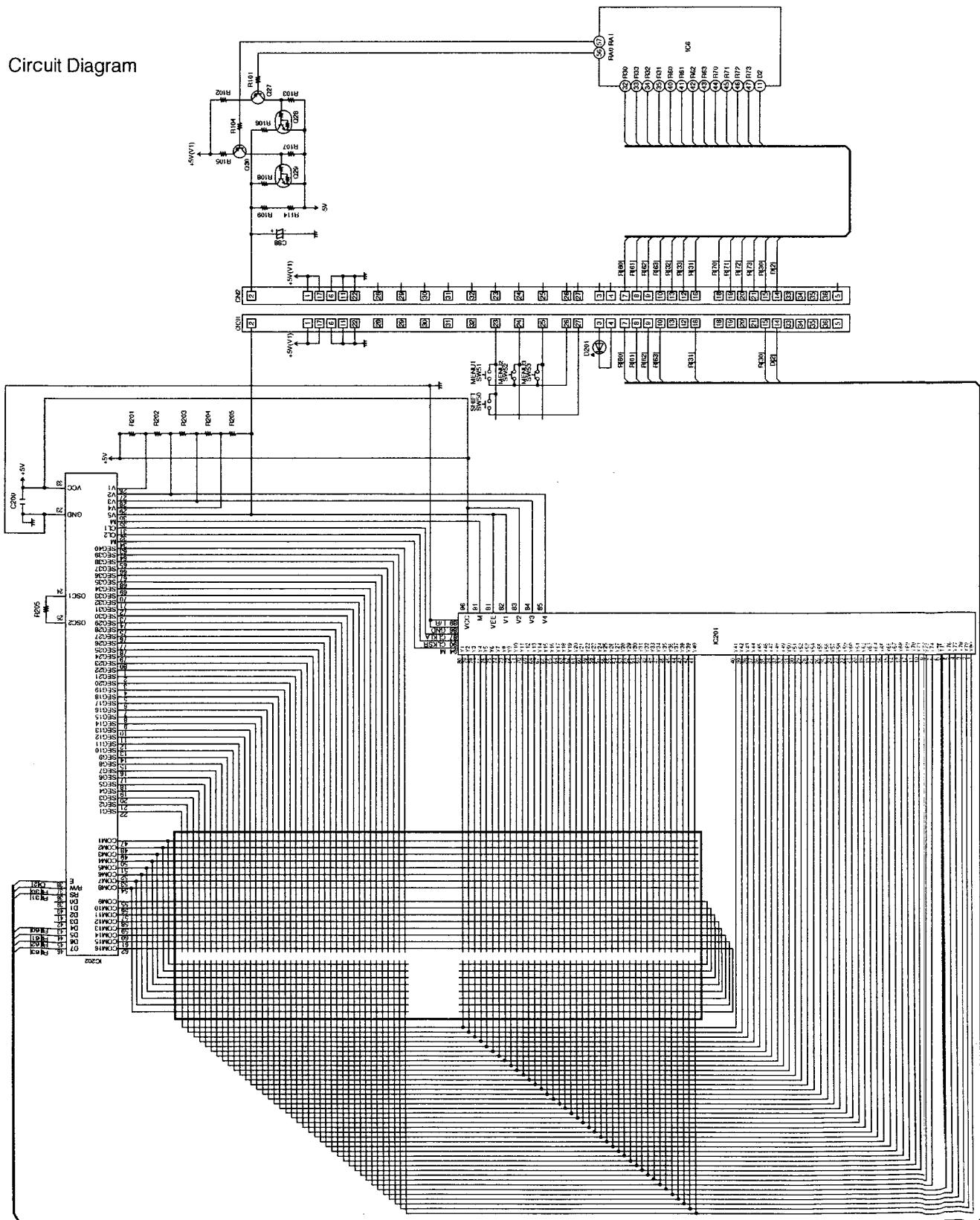


## 2. LCD CONTROL CIRCUIT

## 1) Circuit Operation

The LCD data is output from pins 32 to 35, 40 to 47 and 11 of IC6. LCD contrast adjustment is performed by the circuit composed of Q28, Q29, R109, R108 and R106. The contrast is determined only by the voltage level between V5 and VEE of IC202 and IC201. Higher potential makes the contrast high.

## Circuit Diagram



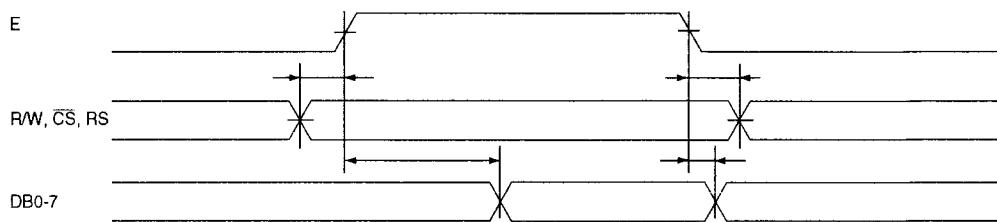
LCD Contrast Control

CONTRAST	IC9 Pin 56	IC9 Pin 57
HIGH	H	L
MIDDLE	L	H
LOW	H	H

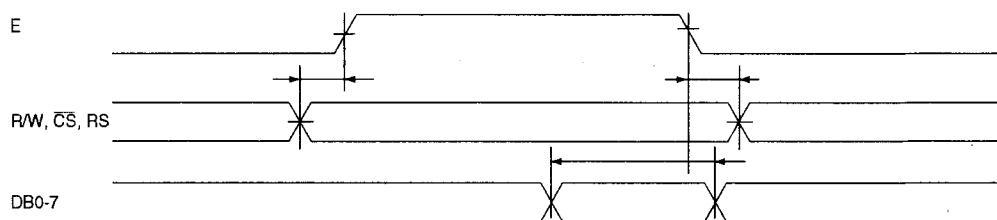
4-bit Data Transfer Timing Sequence

Data Transfer Timing Sequence

READ CYCLE



WRITE CYCLE



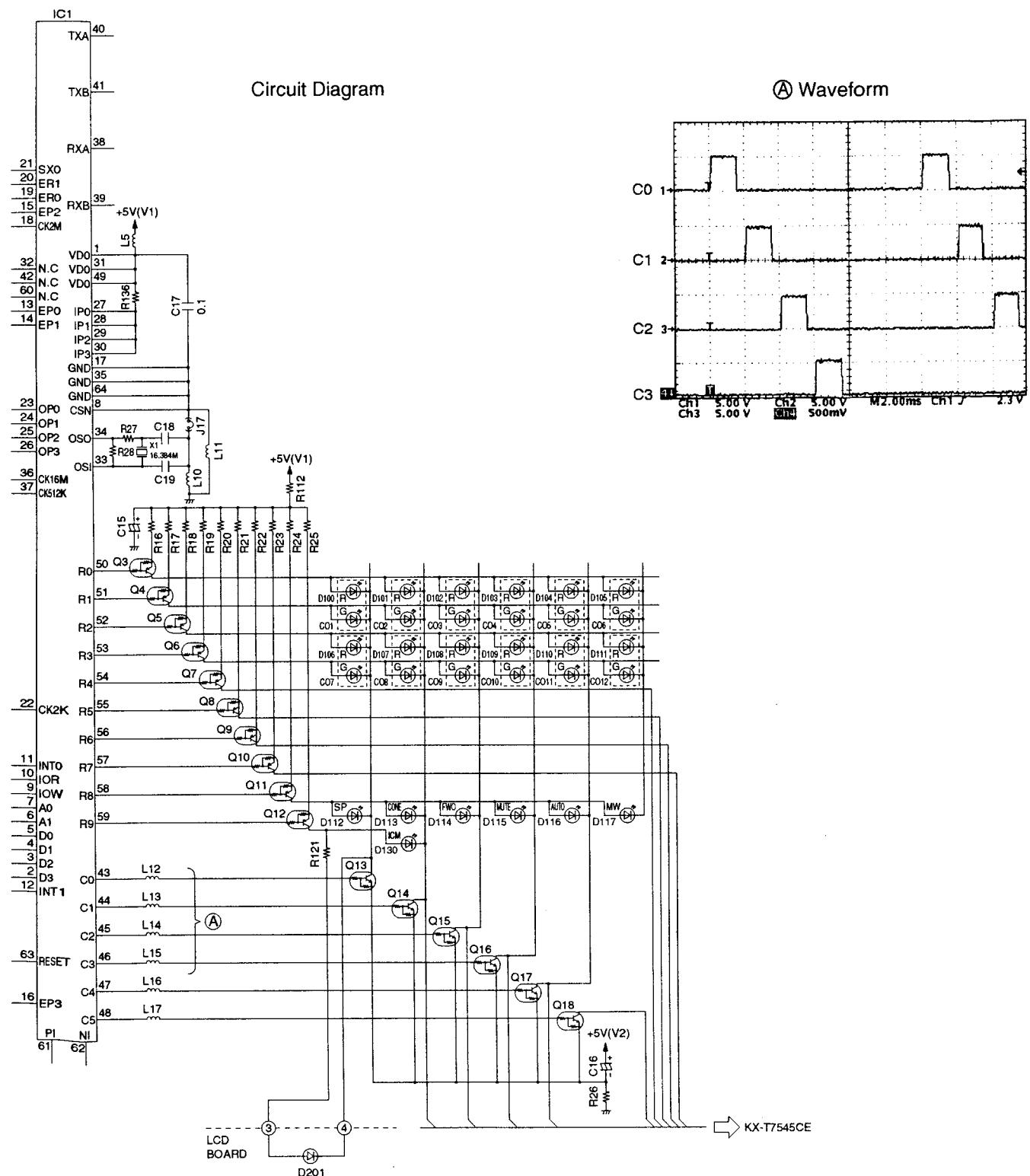
### **3. LED CIRCUIT**

## 1) Circuit Operation

The LED executes dynamic lighting for the status indicators, and control is executed by the output ports C0 to C5 (column) and R0 to R9 of IC1.

A fixed pulse ( $T=1.82$  msec) is output continuously from the SCK1 terminal of IC9. This pulse is counted and the output of IC1 is shifted sequentially from C0 to C5.

R0 to R7 of IC1 also output pulses, and the lighting of the LED is controlled by the timing of the output ports C0 to C5.



## 4. DATA COMMUNICATION CIRCUIT

### 1) Function

The data communication circuit serves the following functions:

Information exchanger between the DSHS and DSHS proprietary telephone, key input information as well as data for the LED control, LCD control, etc. This information is continuously exchanged at all times.

### 2) Circuit Operation

When the DSHS proprietary telephone receives an IRQ signal from the DSHS and after sending the key input information to the DSHS and receiving data for the LED control, etc., the DSHS proprietary telephone will return to the DSHS an acknowledge signal.

### 3) Reception

The data from the DSHS is received via the H and L lines along the path shown below.

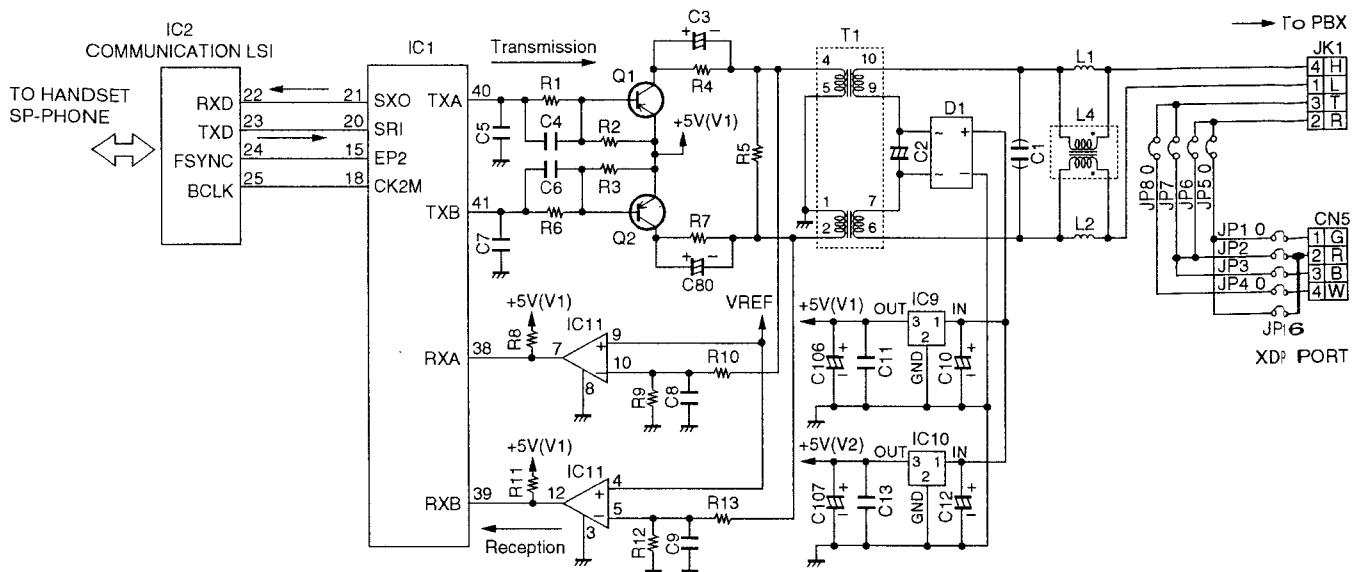
H, L Line → T1 → IC11 Pin 5, 10 → IC1 Pin 38, 39 → IC1 Pin 21 → IC2 Pin 22

### 4) Transmission

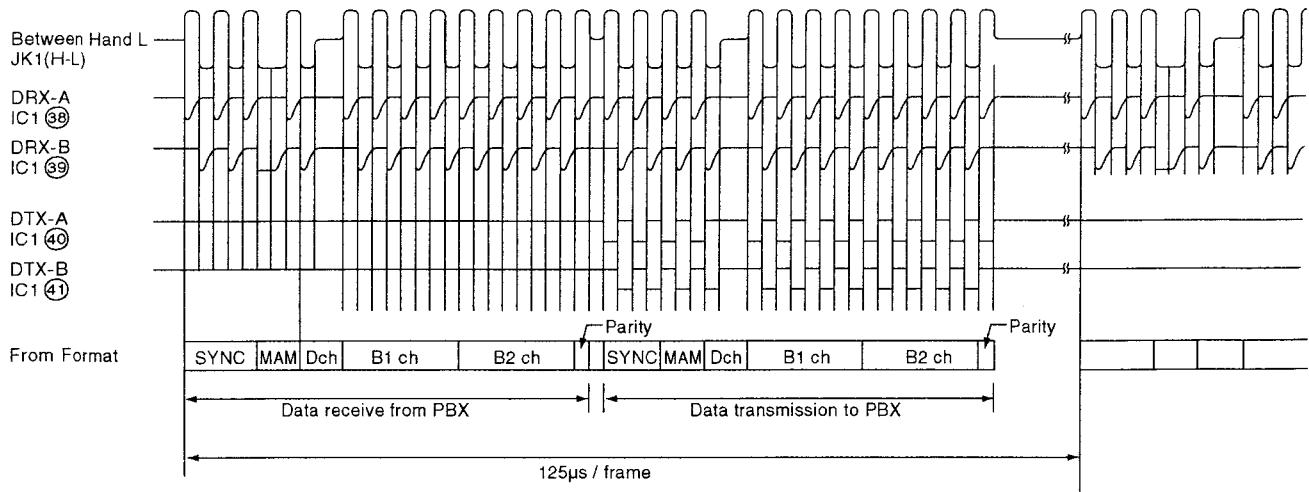
The data to the DSHS proprietary telephone is transmitted along the following path.

IC2 Pin 23 → IC1 Pin 20 → IC1 Pin 40, 41 → Q1, Q2 → T1 → H, L Line

Circuit Diagram



Timing Chart for D-PITS Transmission

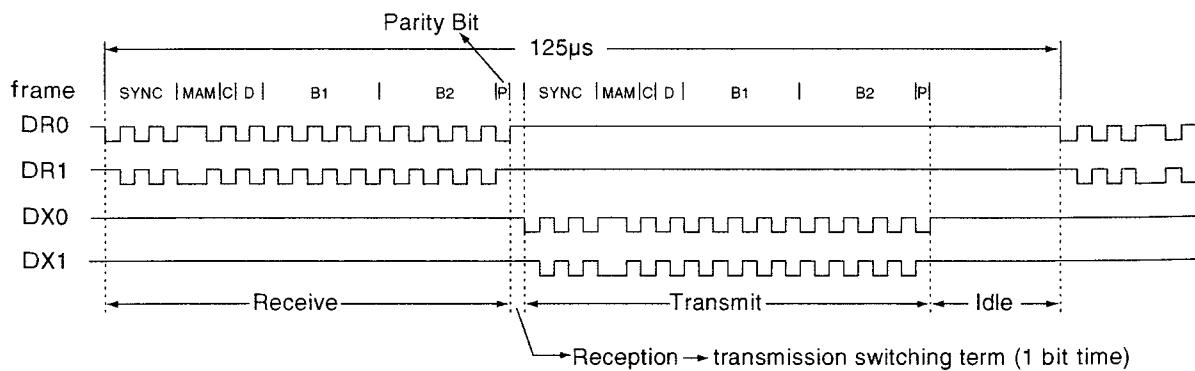


## 5) IC1 (GATE ARRAY) DPITS Interface

DPITS Layer 1 interface. DR [1:0] is receiving input and DX [1:0] is transmitting output.

Layer 1 is the transmission method of Ping-Pong type which is AMI encoded. "SYNC/MAMC/D/B1/B2/P" data is received in the first half at 125us/frame. After 1 bit time has passed since receiving P data, "SYNC/MAM/C/D/B1/B2/P" is transmitted. 1 bit time is 512kHz. 7-bit time idle term comes after receiving P data.

Dpits Frame Timing



## KX-T7533G/KX-T7533G-B

### 6) PCM interface (between IC1 and IC2)

PCM interface consists of following 4 terminals.

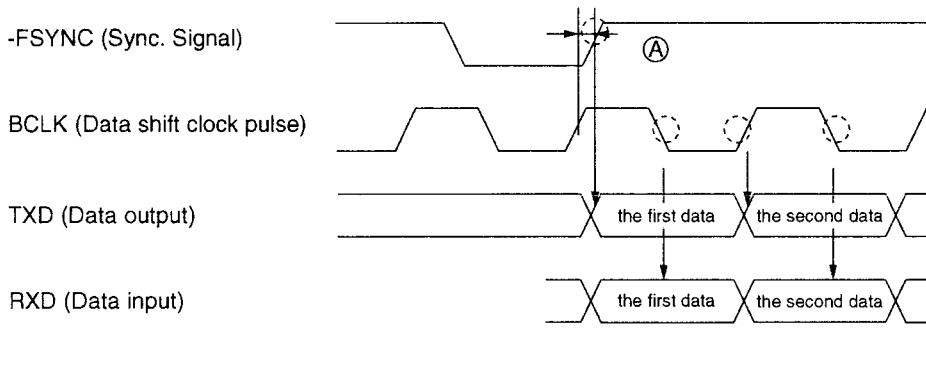
PCM interface terminal

-FSYNC	8kHz sync. signal input terminal	BCLK	PCM data shift clock input terminal
TXD	TXD data output terminal	RXD	PCM data input terminal

The first PCM data is output from TXD at the positive edge of -FSYNC. The second data and the followings are output at the positive edge of BCLK. After all data of 8 bit are output, the last data is kept until the positive edge of next -FSYNC. The positive edge of BCLK should be within  $\pm 100\text{ns}$  from the positive edge of -FSYNC.

The PCM data input from RXD is sampled at the negative edge of BCLK inside LSI. The sampling of the first data is performed between the positive edge of -FSYNC and the first negative edge of BCLK. After completing the sampling of all data of 8 bit, this sampling pauses until the next positive edge of -FSYNC.

Pulse Timing

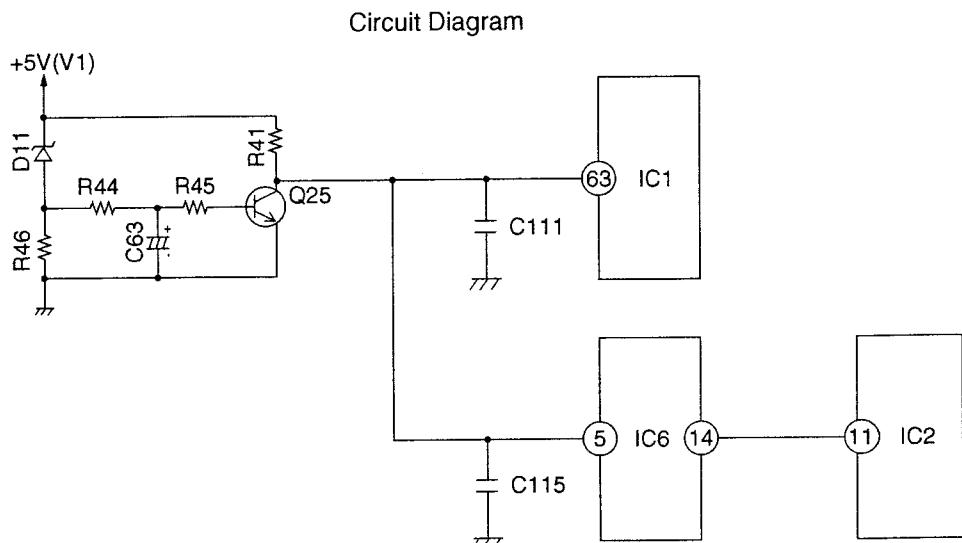


## 5. RESET CIRCUIT

### 1) Circuit Operation

This circuit is used for transmission of a reset pulse to the CPU (IC6) at the following times, connecting the telephone line jack and circuit operation.

The timing chart is shown below.

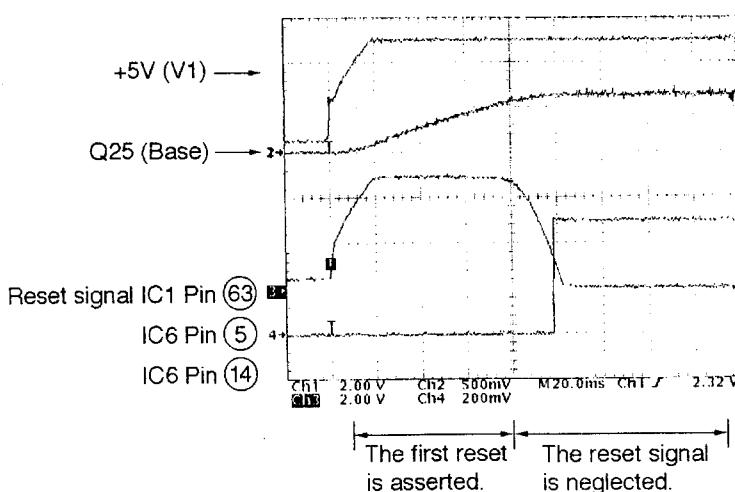


Power ON  
↓  
Q25 OFF  
The reset signal goes up with the power voltage.

D11 Zener Diode ON  
↓  
Charging C63 is started.  
The base voltage of Q25 goes up.  
↓  
Reset signal is asserted

Q25 ON  
↓  
The reset signal is negledded.

Timing Chart

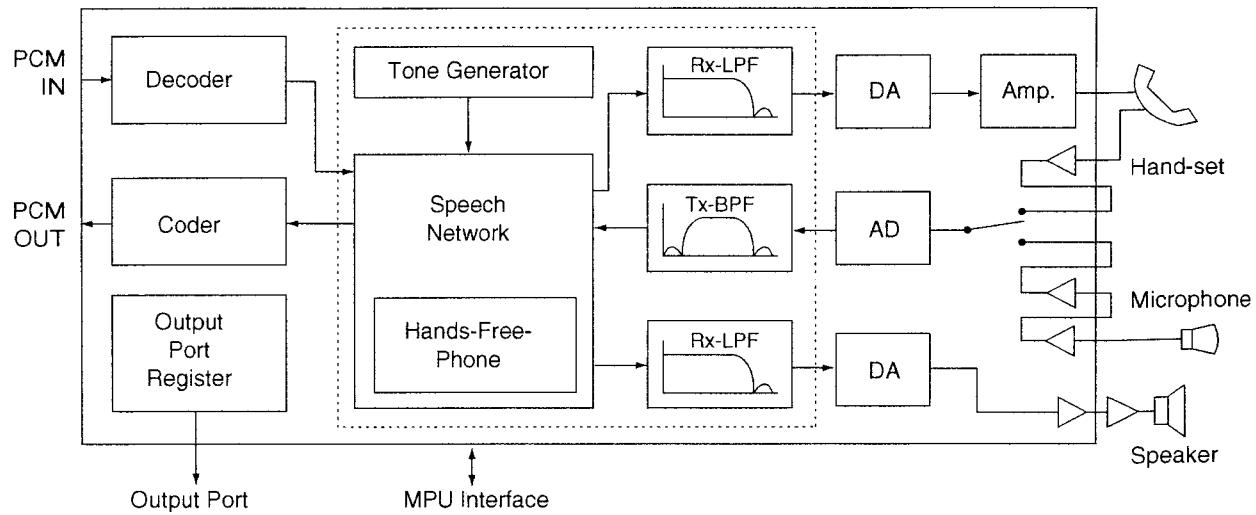


## 6. TONE GENERATION CIRCUIT

### 1) Function

Calling tones, Busy tone, DTMF signal and Key in tone are generated in IC2.

IC2 Block Diagram



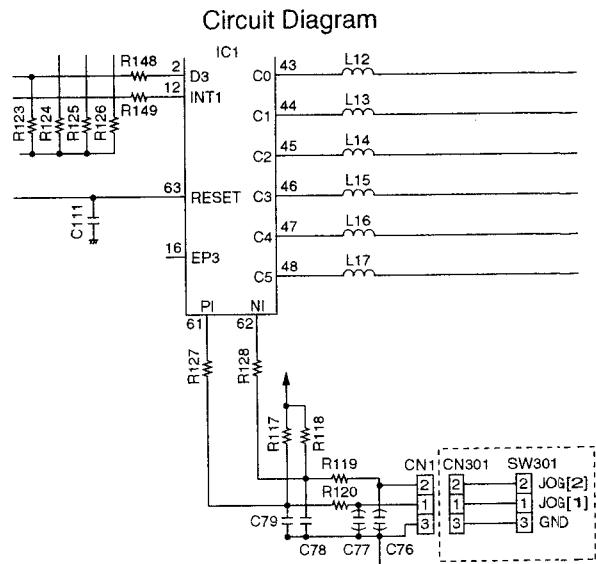
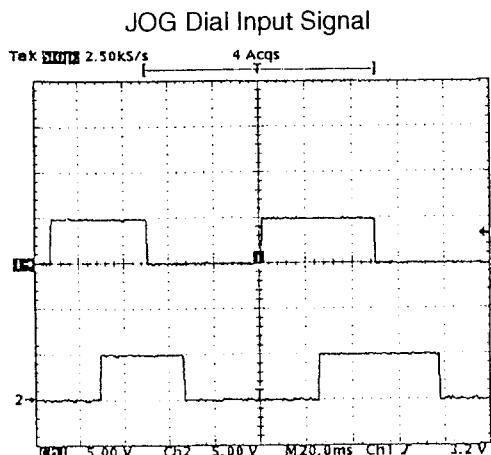
DTMF Frequency Table

		High Group (IC9 Pin 77)		
		1209 Hz	1336 Hz	1477 Hz
Low Group (IC9 Pin 78)	697 Hz	1	2	3
	770 Hz	4	5	6
	852 Hz	7	8	9
	941 Hz	*	0	#

## 7. JOG DIAL CIRCUIT

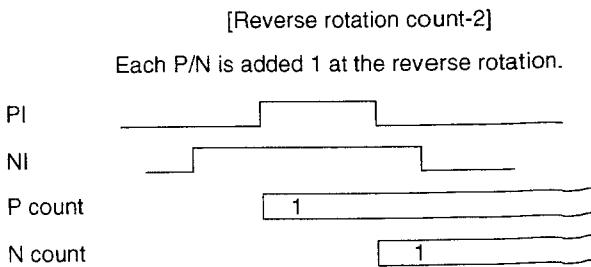
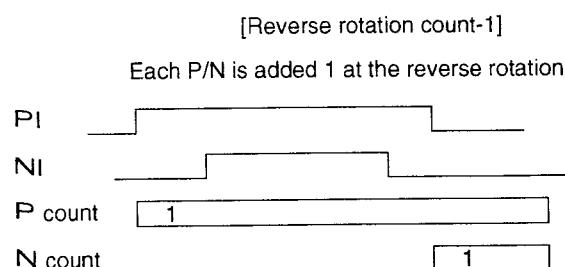
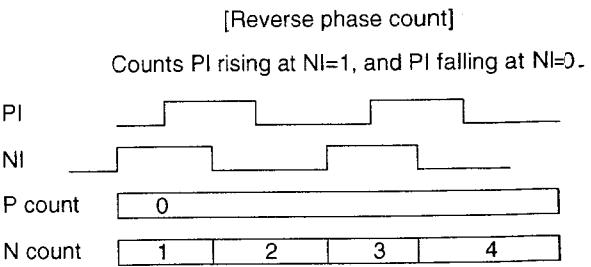
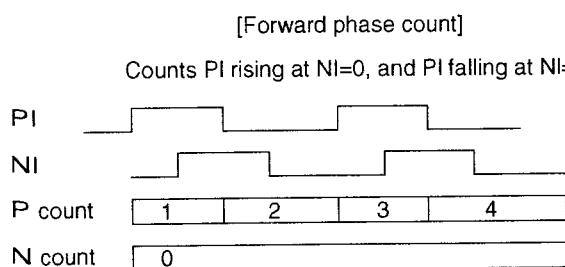
### 1) Circuit Operation

This unit is equipped with the JOG switch, which makes the settings of the volume, function selection speed dial, etc. easy and convenient. This JOG switch consists of 2-phase rotary encoder, and the gate array of IC1 counts the number of the rotation to control. The sampling cycle is 1ms and provided with the chattering protective circuit whose available pulse width is 1ms or more.



These are the rotary encoder inputs, and sampled 1 kHz (1 msec)/cycle. The built-in chattering protective circuit neglects the input pulse of 1 msec or less. The high pulse of 2 msec or more is available. The availability of the pulse with the width of 1~2 msec is not ensured.

The changed number of these 2-phase inputs is counted cumulatively. The maximum counting value is 255.

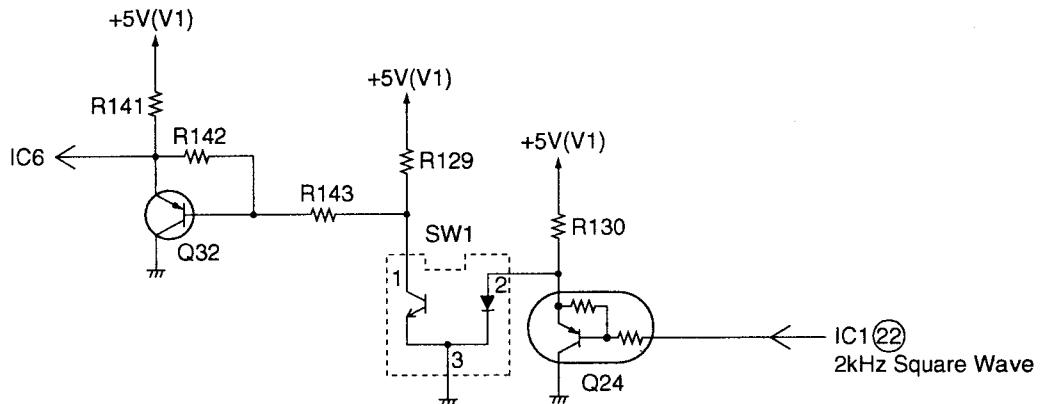


## 8. HOOK SWITCH CIRCUIT

### 1) Circuit Operation

The hook switch of this unit employs the photo switch consisting of LED and photo transistor. The 2kHz pulse from the gate array of IC2 causes the LED to emit the light. The light is interrupted at ON-HOOK and passes through at OFF-HOOK by the hooking bar, so that the hooking is performed controlling the light of the photo transistor. The detection signal is determined by the microcomputer of IC6.

Circuit Diagram



## 9. HANDSET CIRCUIT

### 1) Transmission signal path

The analog input signal from the handset microphone is input to the communication LSI through the IC2 built-in analog amplifier. In this LSI the network control based on A/D conversion and the handset software and the gain control based on the down load data from the PBX are performed. The voice data is sent to IC1 by the serial transmission. The voice data is transmitted between PBX and DPITS with the protocol originated by KME.

### 2) Reception signal path

The voice serial data transmitted from PBX is sent to IC1 or IC2 by the serial data. The network control, gain control, A/D conversion is performed in IC2, then the data is output from the handset speaker. Q31 of the handset speaker performs the mute operation by controlling IC6.

### 3) Circuit diagram for transmission/reception signal path

Refer to page 39.

## 10. SP-PHONE CIRCUIT

### 1) Transmission signal path

The analog input signal from SP-phone microphone is input to the communication LSI through the IC2 built-in analog amplifier. In this LSI the network control based on A/D conversion and the handset software and the gain control based on the down load data from the PBX are performed. The voice data is sent to IC1 by the serial transmission. The voice data is transmitted between PBX and DPITS with the protocol originated by KME. IC3 is the SP-phone amplifier, which turns ON/OFF using the port of IC2. The analog switch of IC12 interrupts the input signal.

### 2) Reception signal path

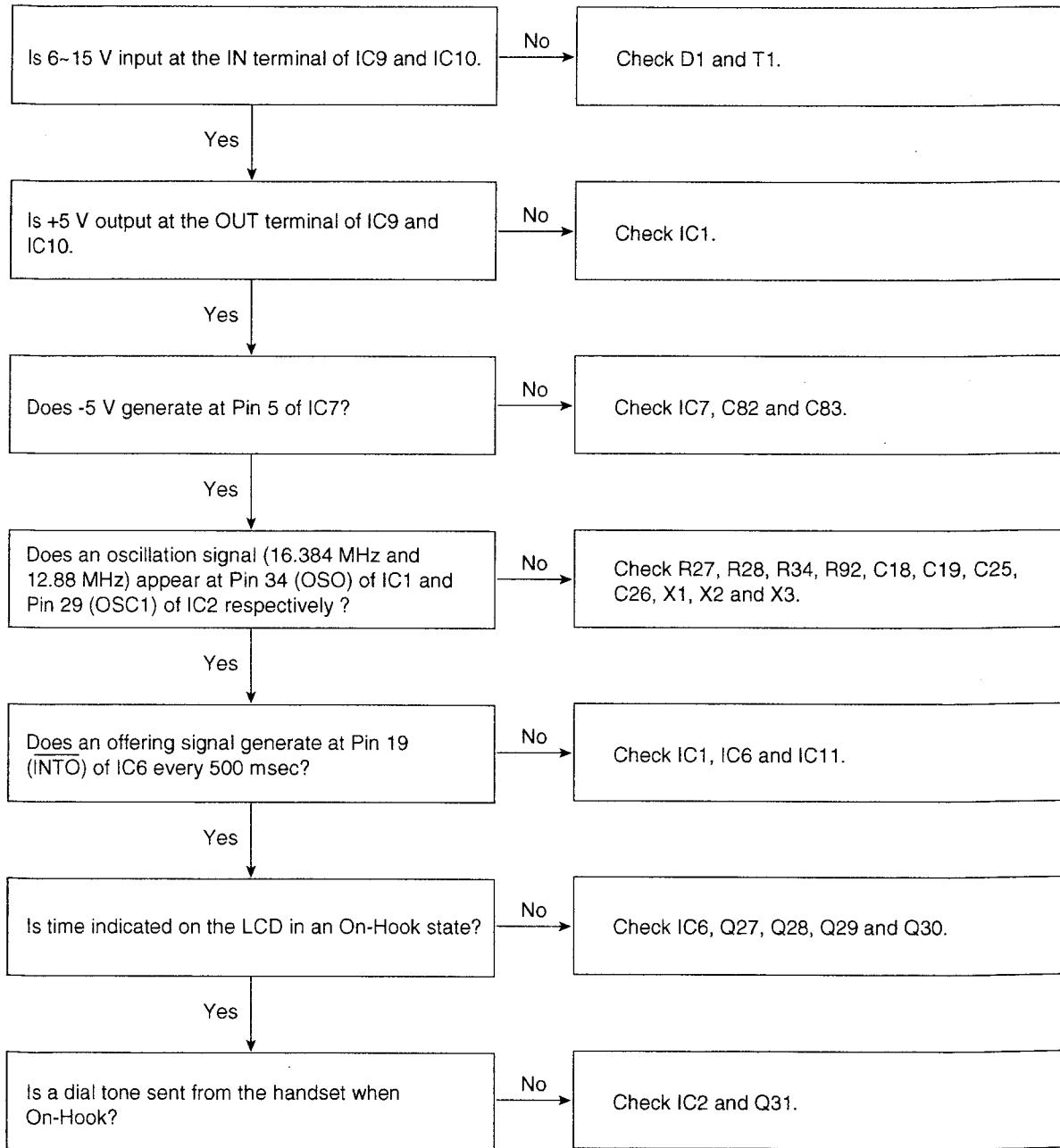
The voice serial data transmitted from PBX is sent to IC2 by the serial transmission. Then the signal is output from the handset speakerphone after performing the network control, gain control, and A/D conversion in IC2. The SP-phone microphone has the mute function, which interrupts the input signal with the analog switch and controls the port of IC2 with Q26.

### 3) Circuit diagram for transmission/reception signal path

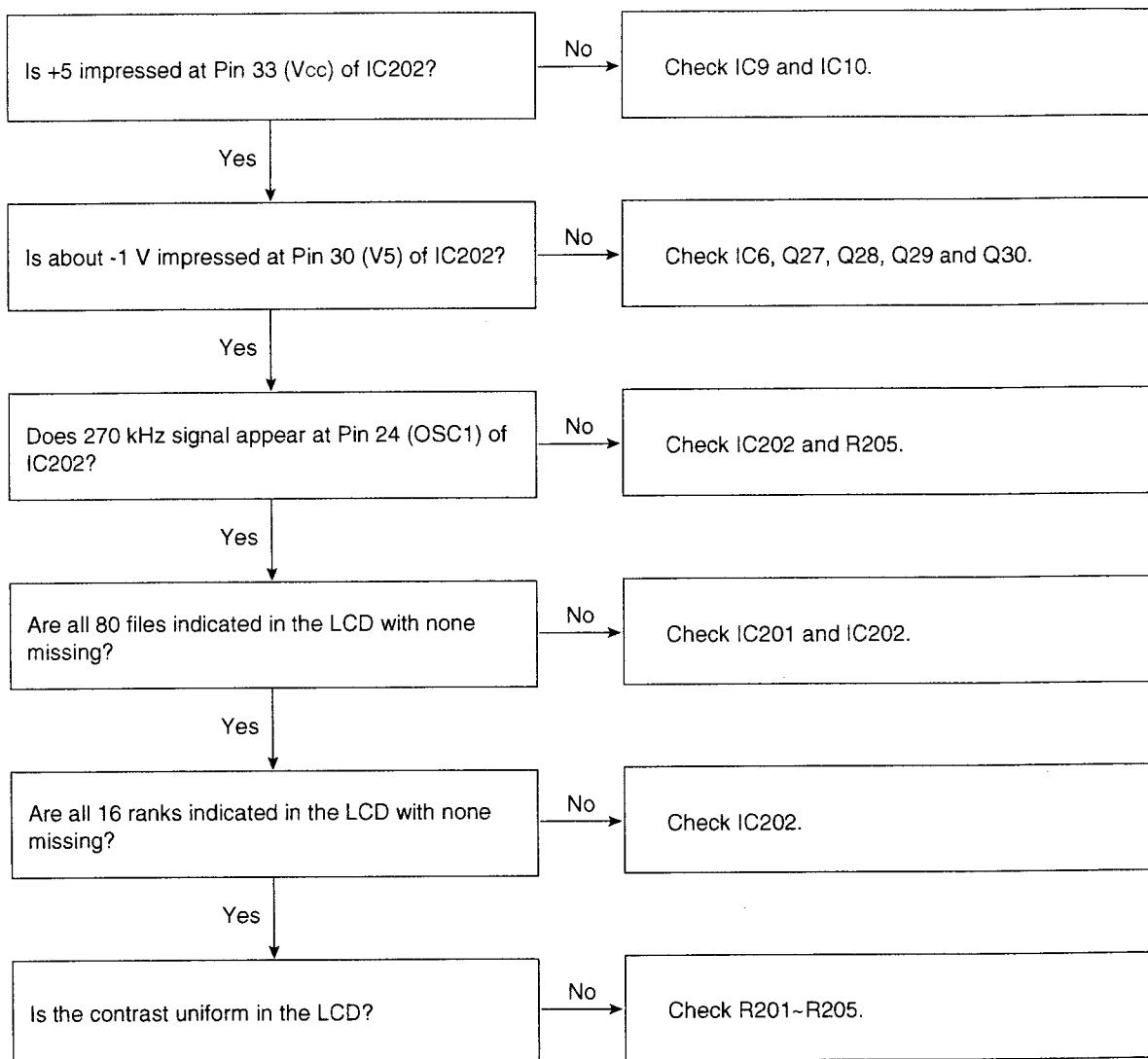
Refer to page 39.

## TROUBLESHOOTING GUIDE

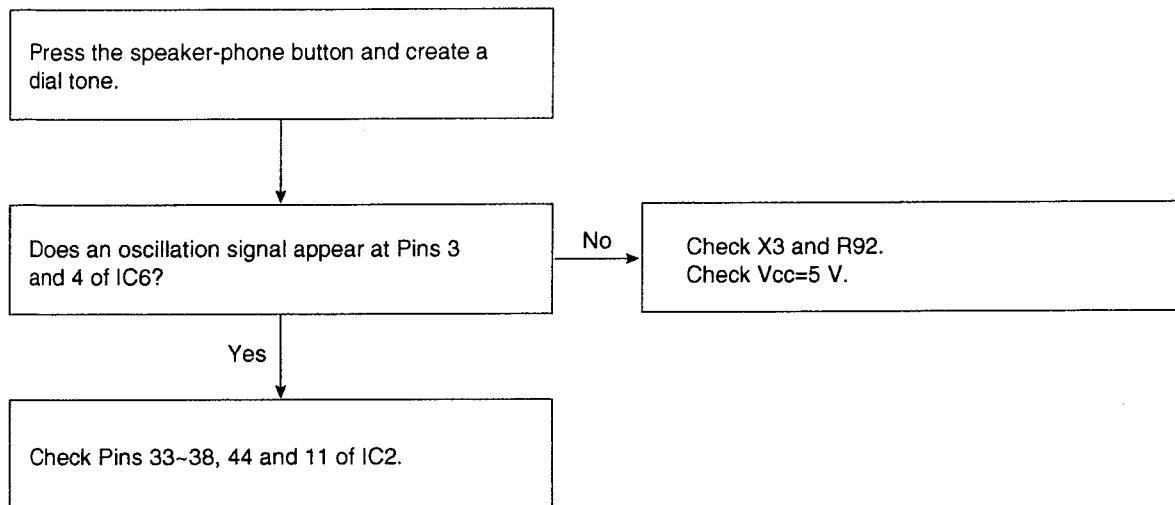
### 1. NO OPERATION.



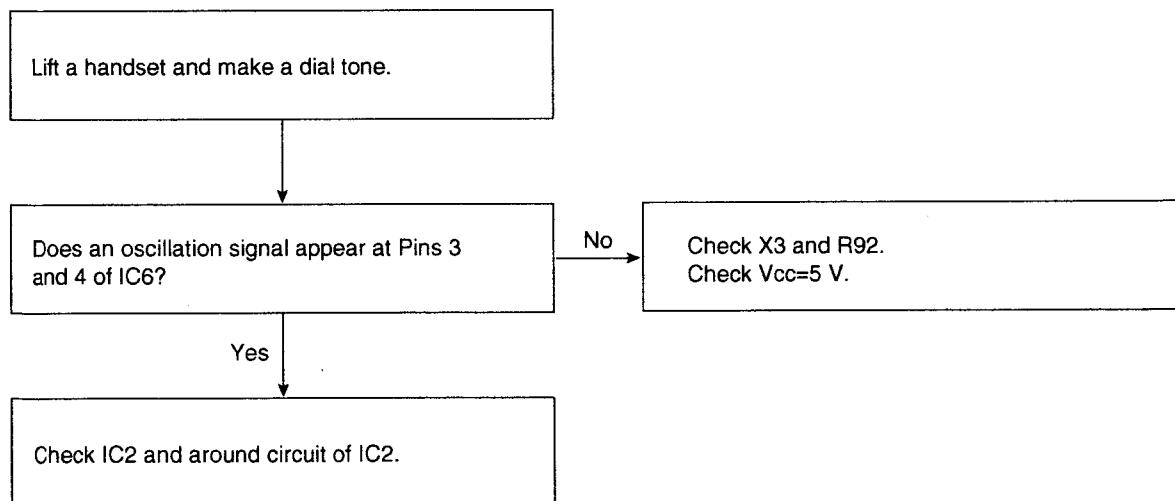
## 2. THE LCD DOES NOT OPERATE.



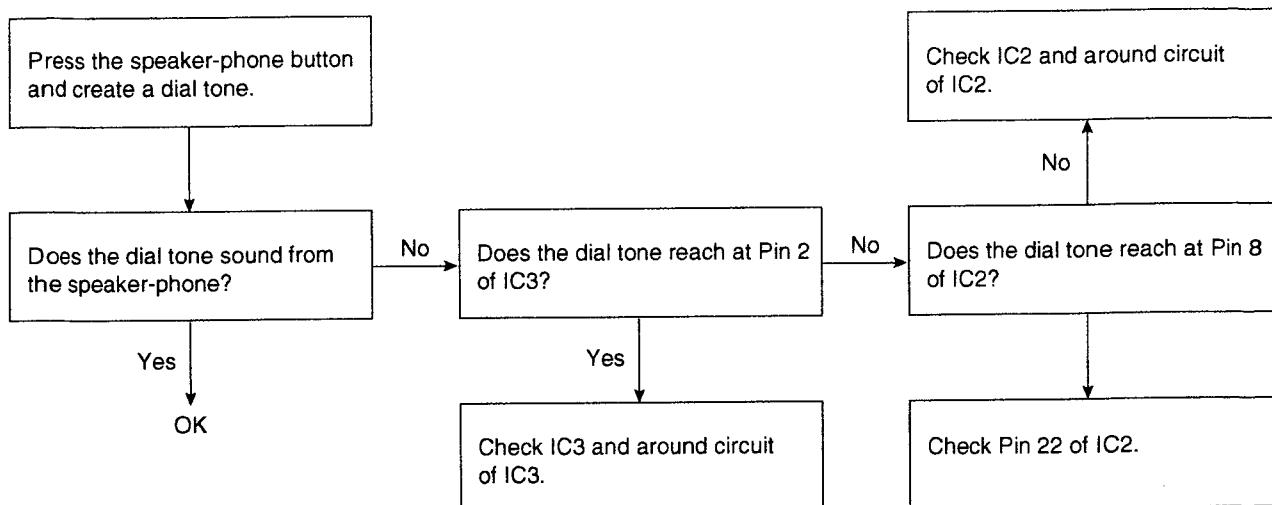
**3. THE ELECTRONIC VOLUME OF THE SPEAKER-PHONE DOES NOT WORK.**



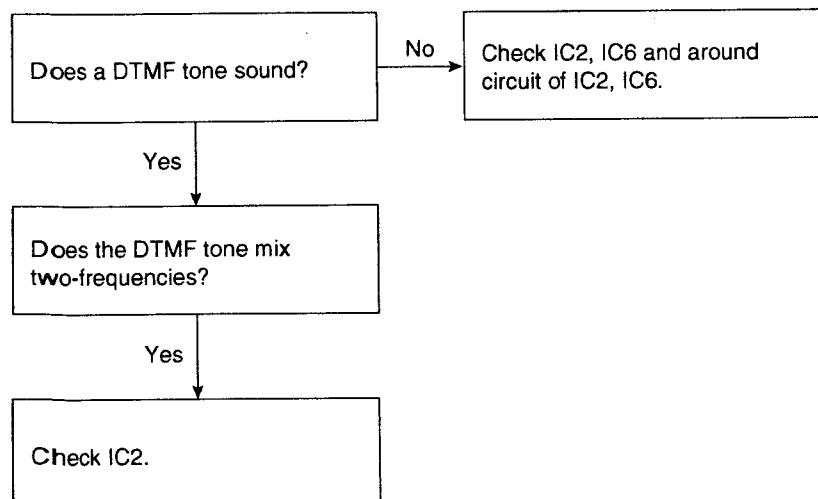
**4. THE ELECTRONIC VOLUME OF THE HANDSET DOES NOT WORK.**



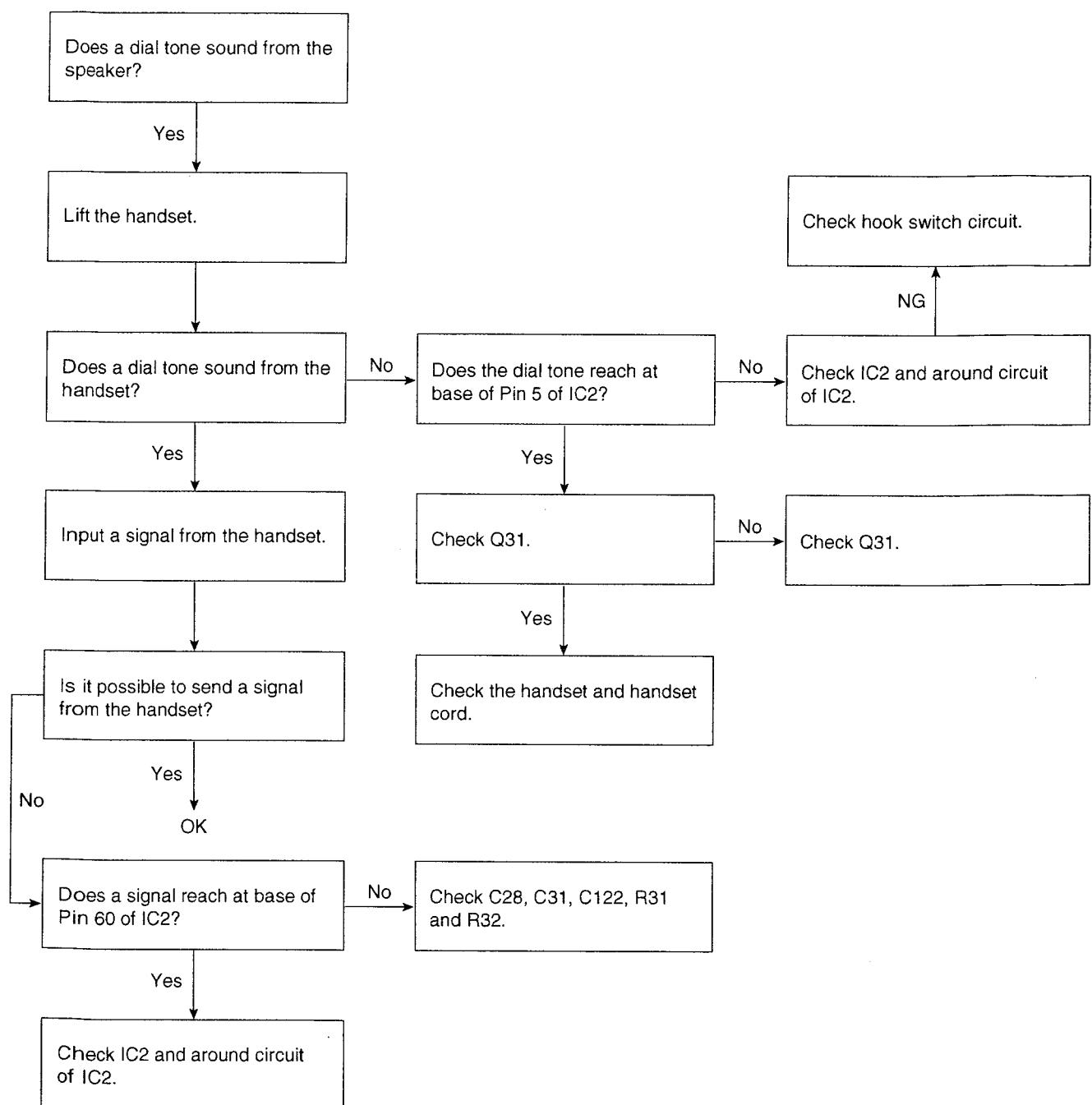
## 5. SPEAKER-PHONE TROUBLE.



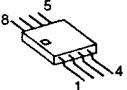
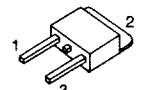
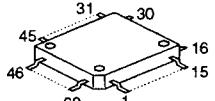
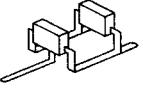
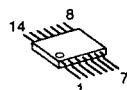
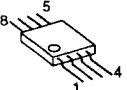
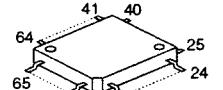
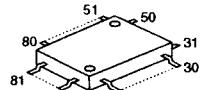
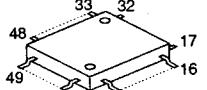
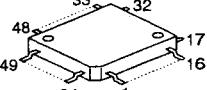
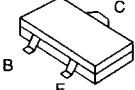
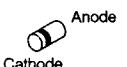
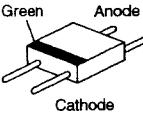
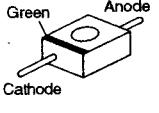
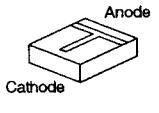
## 6. TONE DIAL TROUBLE.



**7. HANDSET TROUBLE.**



## TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 PQVIMC34119D	 PSVIBA05FP	 PSVITC5324F2	 PSVII24015T	 PQVINJM319V
 PQVINJM2904F PQVINJU7660M	 PSVI44780B24	 PQVILC7931D	 PSVIBU65050D	 PSVI40612A04
 2SA1576Q, PQVTFB1J3P PQVTDTA143XU, UN5213 PQVTDTD133HK, 2SC4081Q	 PQVDS1ZB60F1	 Anode Cathode RLS71	 Cathode Anode PSVDUDZ39B	
 PQVDPY1204	 PQVDBR1102W PQVDPY1102	 Cathode Anode PSVD111R820R		

## **HOW TO REPLACE THE FLAT PACKAGE IC**

If you do not have the special tools (for example: SPOT HEATER) to remove the SPOT HEATER'S Flat IC, if you have solder (large amount) a soldering iron and a cutter knife, you can easily remove IC's even though large than 100 pin.

### **1. PREPARATION**

- SOLDER - - - - - Sparkle Solder 115A-1, 115B-1  
OR  
Almit Solder KR-19, KR-19RMA
- Soldering iron - - - - - Recommended power consumption is between 30 W to 40 W.  
Temperature of Copper Rod 662 ± 50 °F (350 ± 10°C )  
  
(An expert may handle a 60~80 W iron, but a beginner might damage the foil by overheating.)
- Flux - - - - - HI115      Specific gravity 0.863

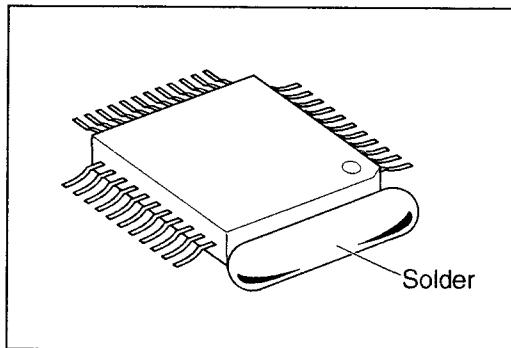
(Original flux should be replaced daily.)

### **2. FLAT PACKAGE IC REMOVE PROCEDURE**

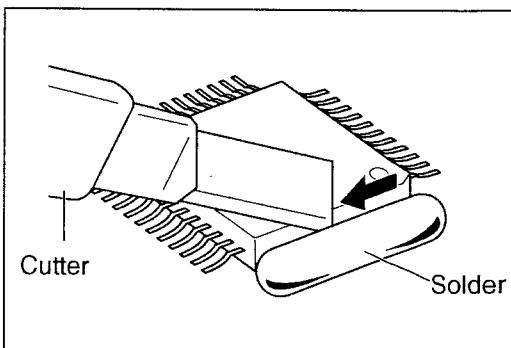
- 1) When all of the IC lead can not been seen at the standard degree, fill with large quantities of solder.

**Note:**

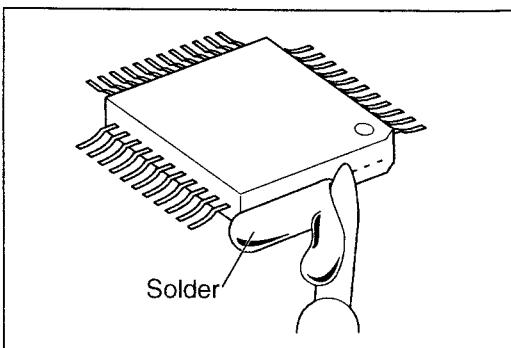
If you do not fill with solder and directly cut the IC lead with the cutter, stress may build up directly in the P.C.board's pattern. If you do not fill with large quantities of solder as in step 1 the P.C.board pattern may be removed.



- 2) Using a cutter, cut the lead at the source.  
(Cut the contents with the cutter lightly 5 or 6 times.)



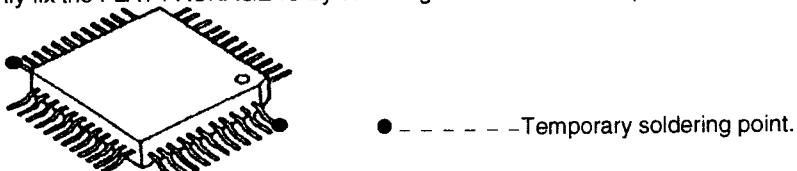
- 3) Remove when the solder melts.  
(Remove the lead at the same time.)



After removing the Flat IC and when attaching the new IC, remove any of the excess solder on the land using the soldering wire, etc. If the excess solder is not removed from the land, the IC will slip and not be attached properly.

### 3. FLAT PACKAGE IC INSTALLATION PROCEDURE

- 1) Temporarily fix the FLAT PACKAGE IC by soldering on the two marked pins.

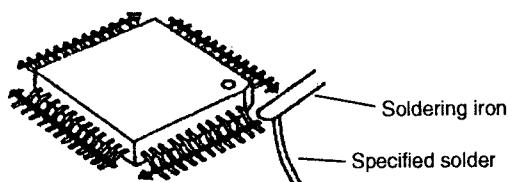


\*Check the accuracy of the IC setting with the corresponding soldering foil.

- 2) Apply flux to all pins of the FLAT PACKAGE IC.

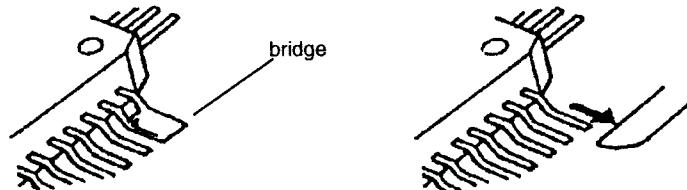


- 3) Solder using the specified solder, in the direction of the arrow, by sliding the soldering iron.



### 4. BRIDGE MODIFICATION PROCEDURE

- 1) Lightly re-solder the bridged portion.
- 2) Remove the remaining solder along the pins using a soldering iron as shown in the figure below.

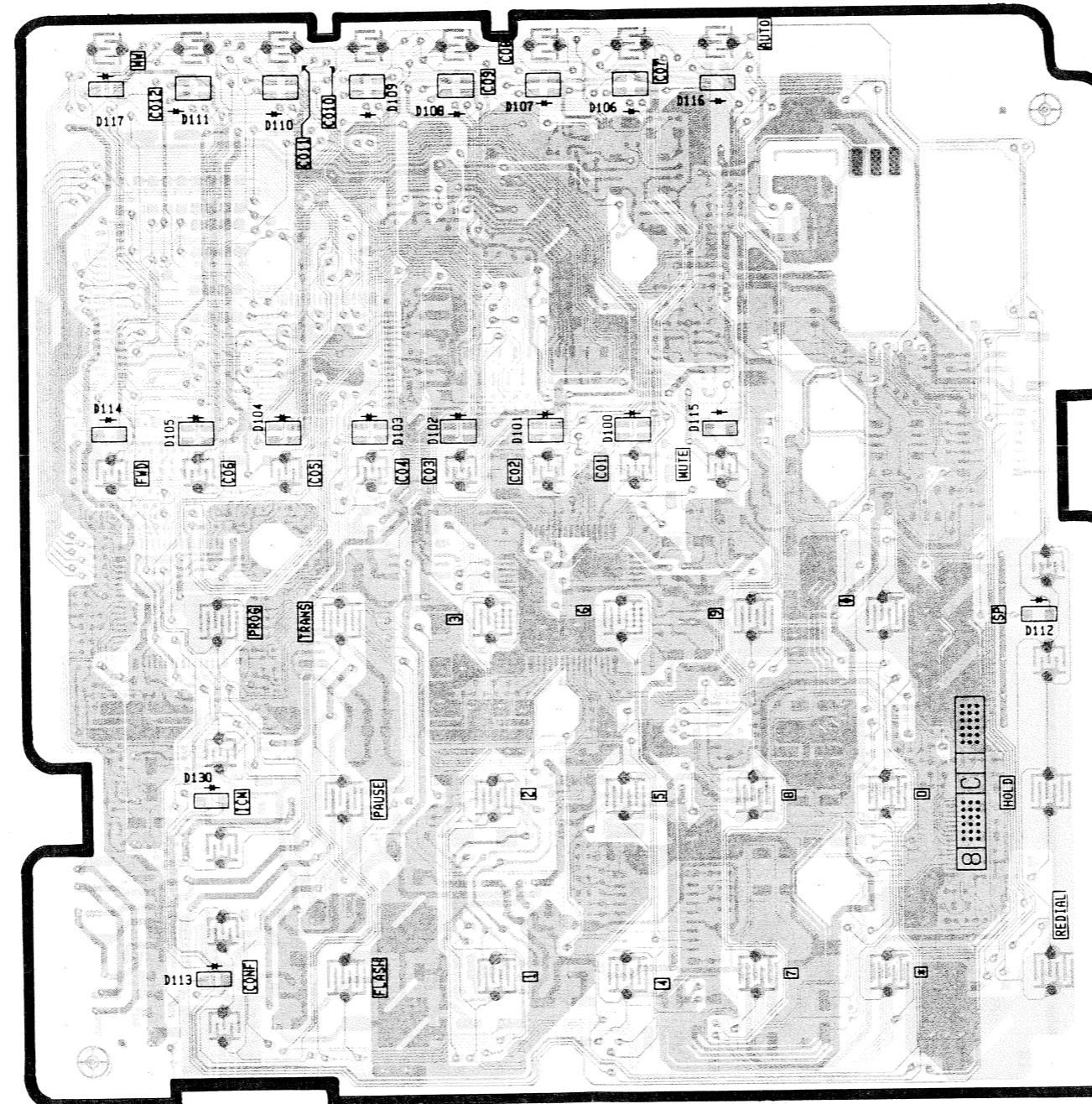


**KX-T7533G/KX-T7533G-B**

**MEMO**

## **PRINTED CIRCUIT BOARD (MAIN BOARD)**

(BOTTOM VIEW)



**Notes:**

1. The circuit shown in  on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in  on the conductor indicates printed circuit on the front side of the printed circuit board.
3. This printed circuit board may be modified at any time with the development of new technology.

## PRINTED CIRCUIT BOARD (MAIN BOARD)

1 2 3 4 5 6 7 8 9 10 11 12

(COMPONENT VIEW)

A

B

C

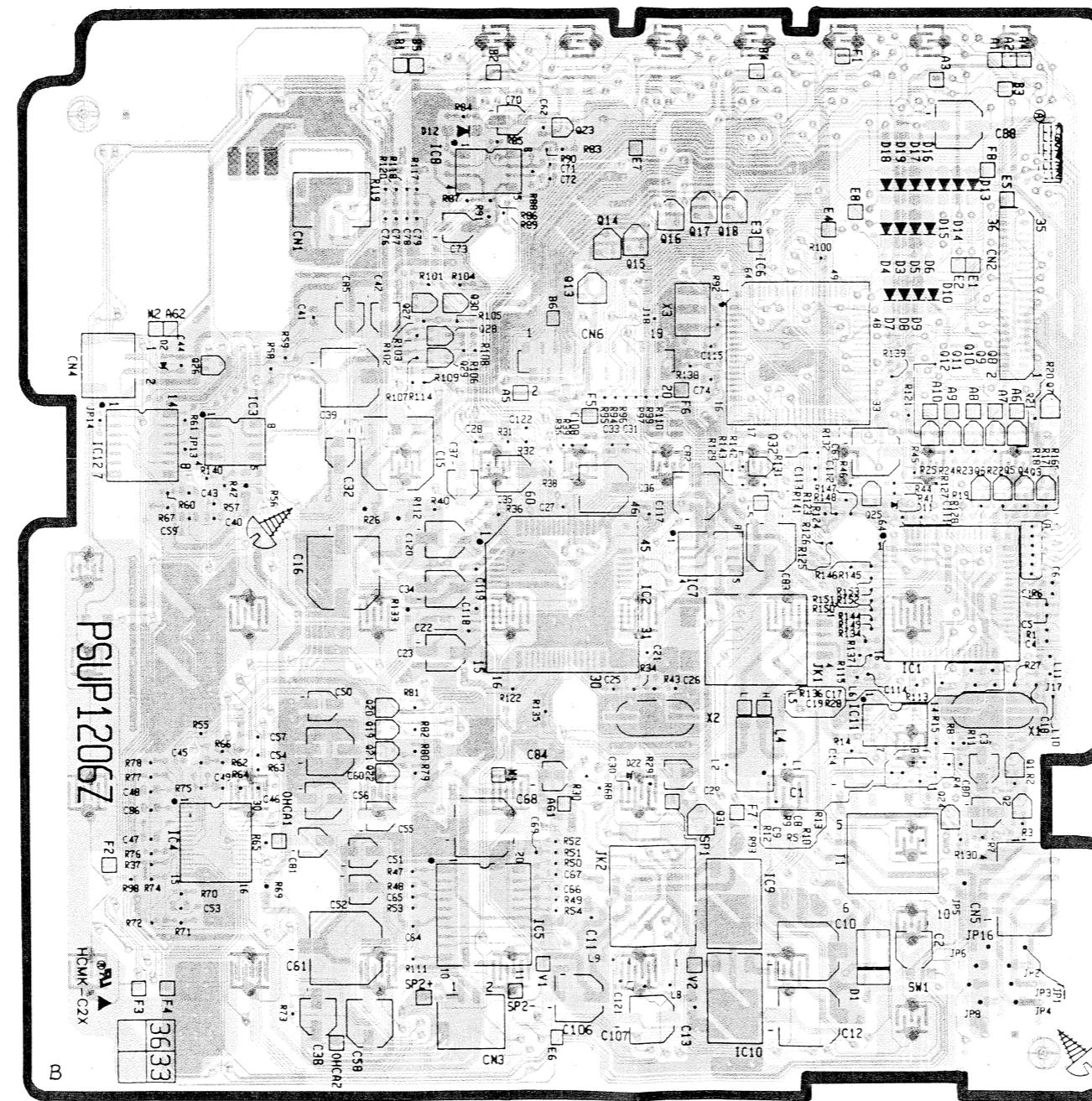
D

E

F

G

H

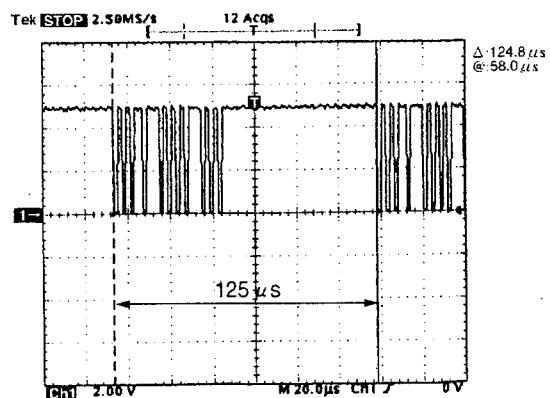


**Notes:**

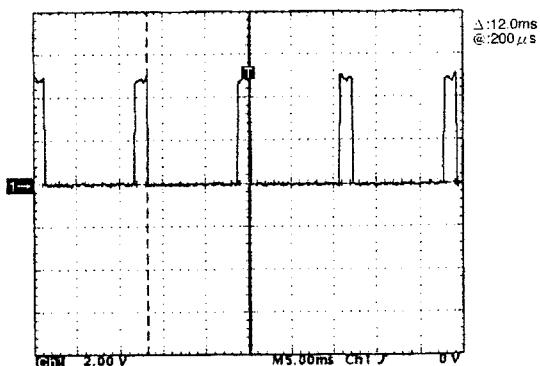
1. The circuit shown in on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in on the conductor indicates printed circuit on the front side of the printed circuit board.
3. This printed circuit board may be modified at any time with the development of new technology.

## WAVEFORM

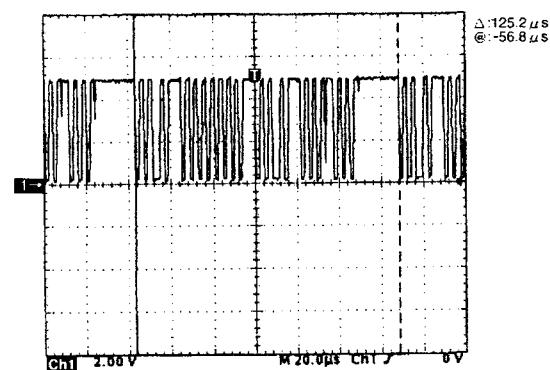
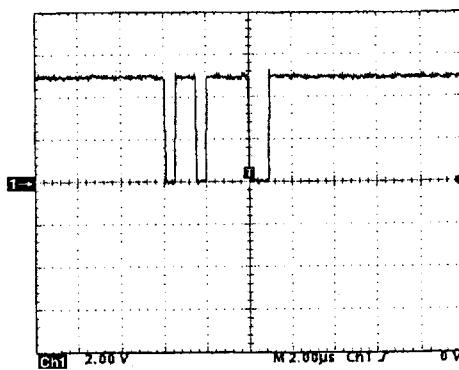
① TX DATA TRANSFER



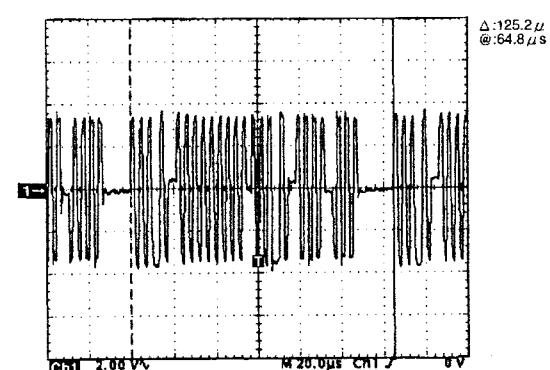
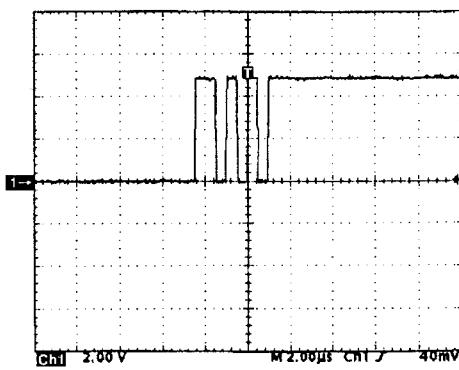
⑤ LED CONTROL DATA



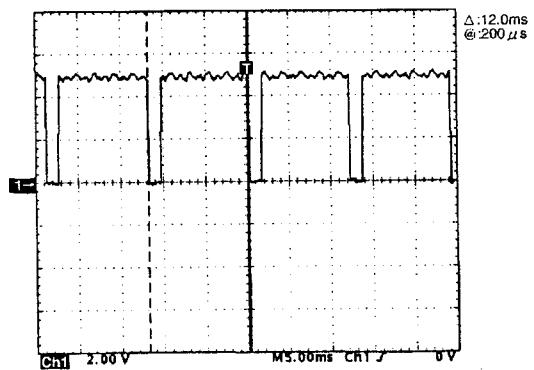
② RX DATA TRANSFER

⑥ RX VOICE SERIAL DATA  
(VOICE DATA ON)

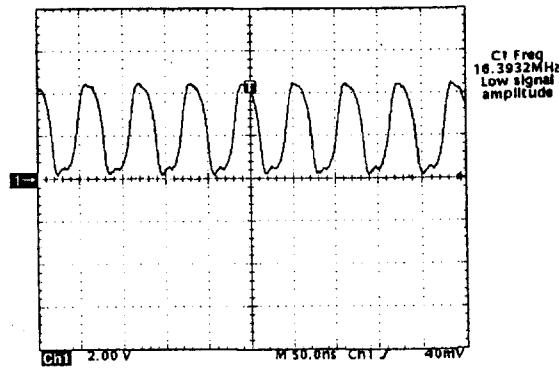
③ H-L DATA

⑦ TX VOICE SERIAL DATA  
(VOICE DATA ON)

④ LED COTROL DATA

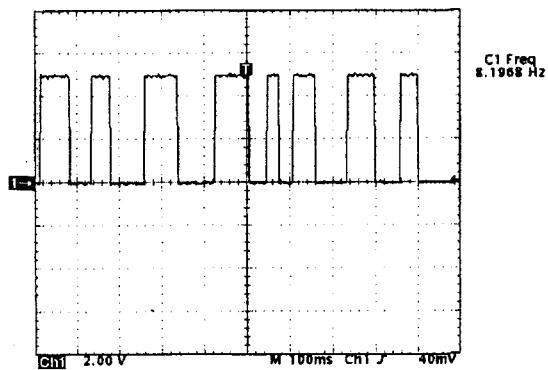


⑧ 16.38MHz CRYSTAL OUTPUT



## KX-T7533G/KX-T7533G-B

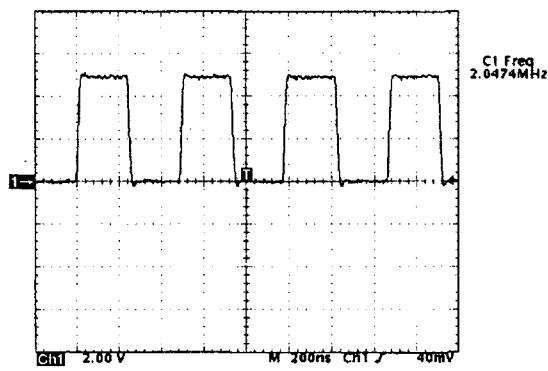
⑨ JOG DIAL  
(JOG OPERATION)



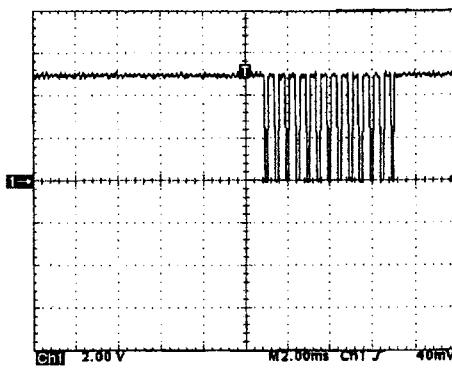
⑬ CK2K



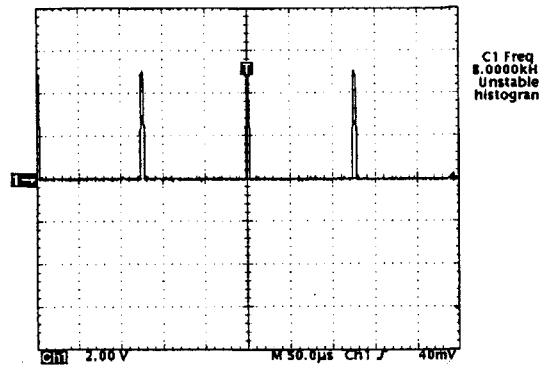
⑩ CK2M



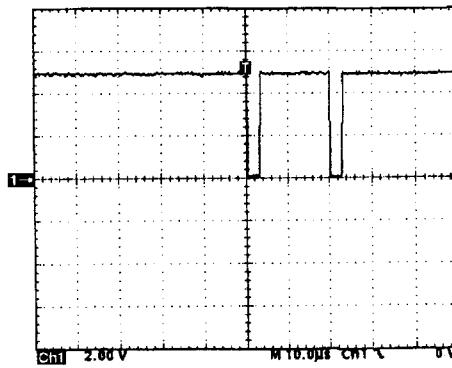
⑭ INT



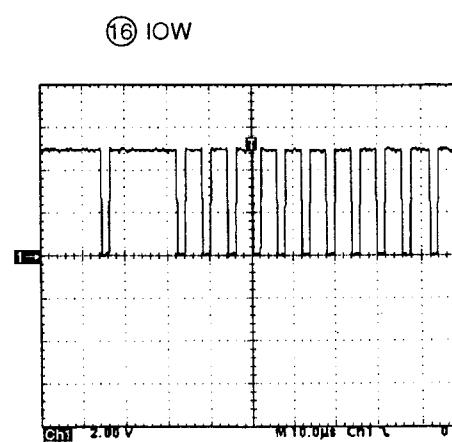
⑪ EP2



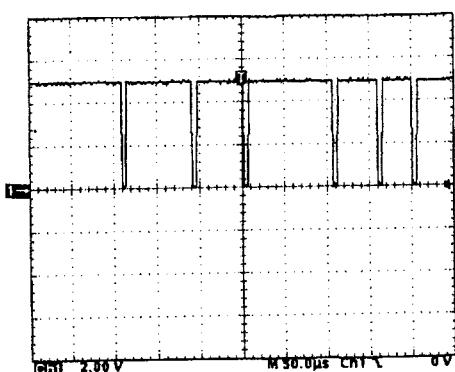
⑮ IOR



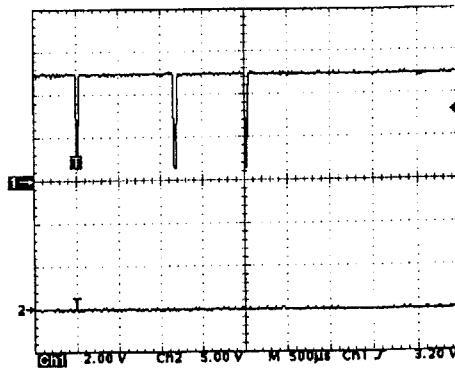
⑫ Not used



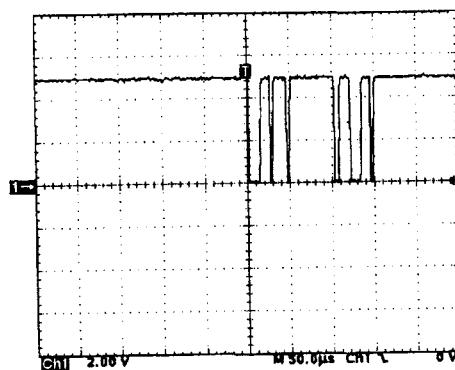
⑯ A0 ~ A1



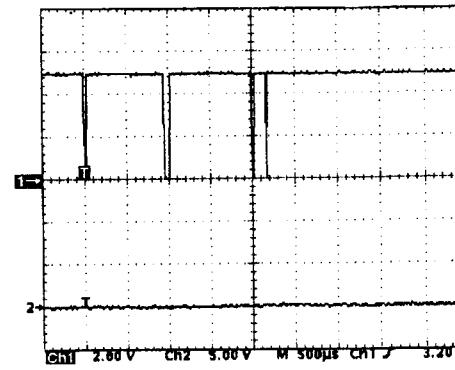
㉑ KEY INPUT SIGNAL  
(KEY ON , KEY OFF:5V)



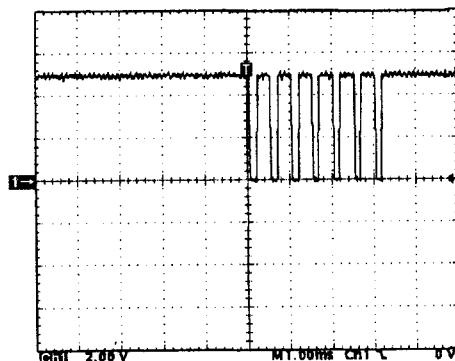
⑰ D0 ~ D3



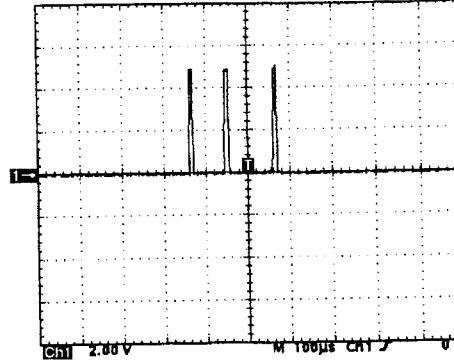
㉒ KEY CONTROL SIGNAL



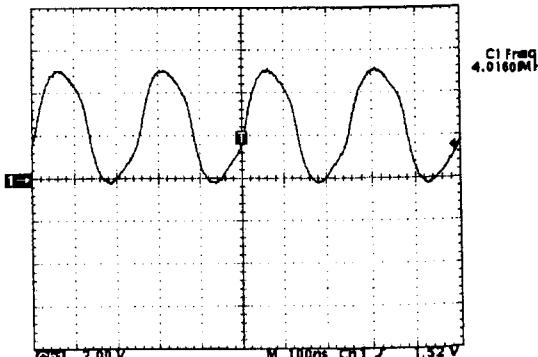
⑲ INT2



㉓ LCD DATA

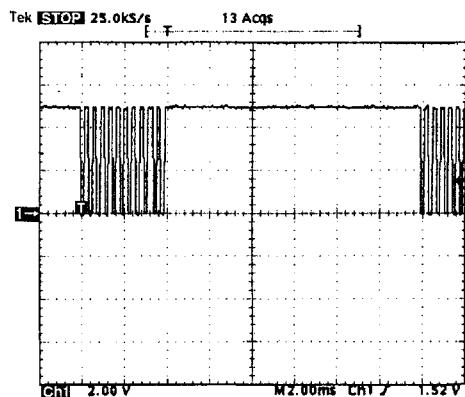


㉔ Not used



## KX-T7533G/KX-T7533G-B

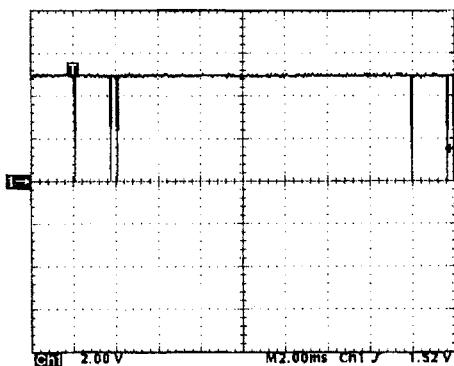
③③ ALE



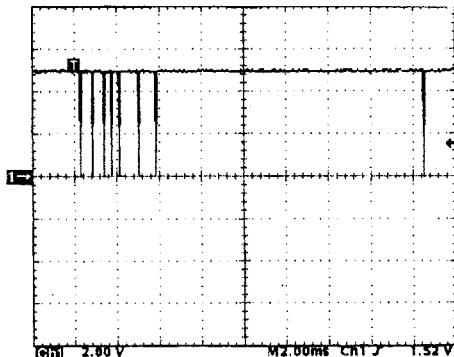
Note:

②⑤ ~ ③② Not used

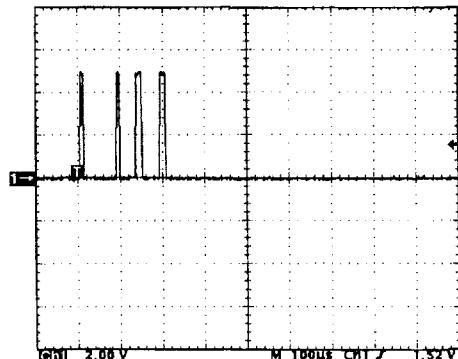
③④ INT

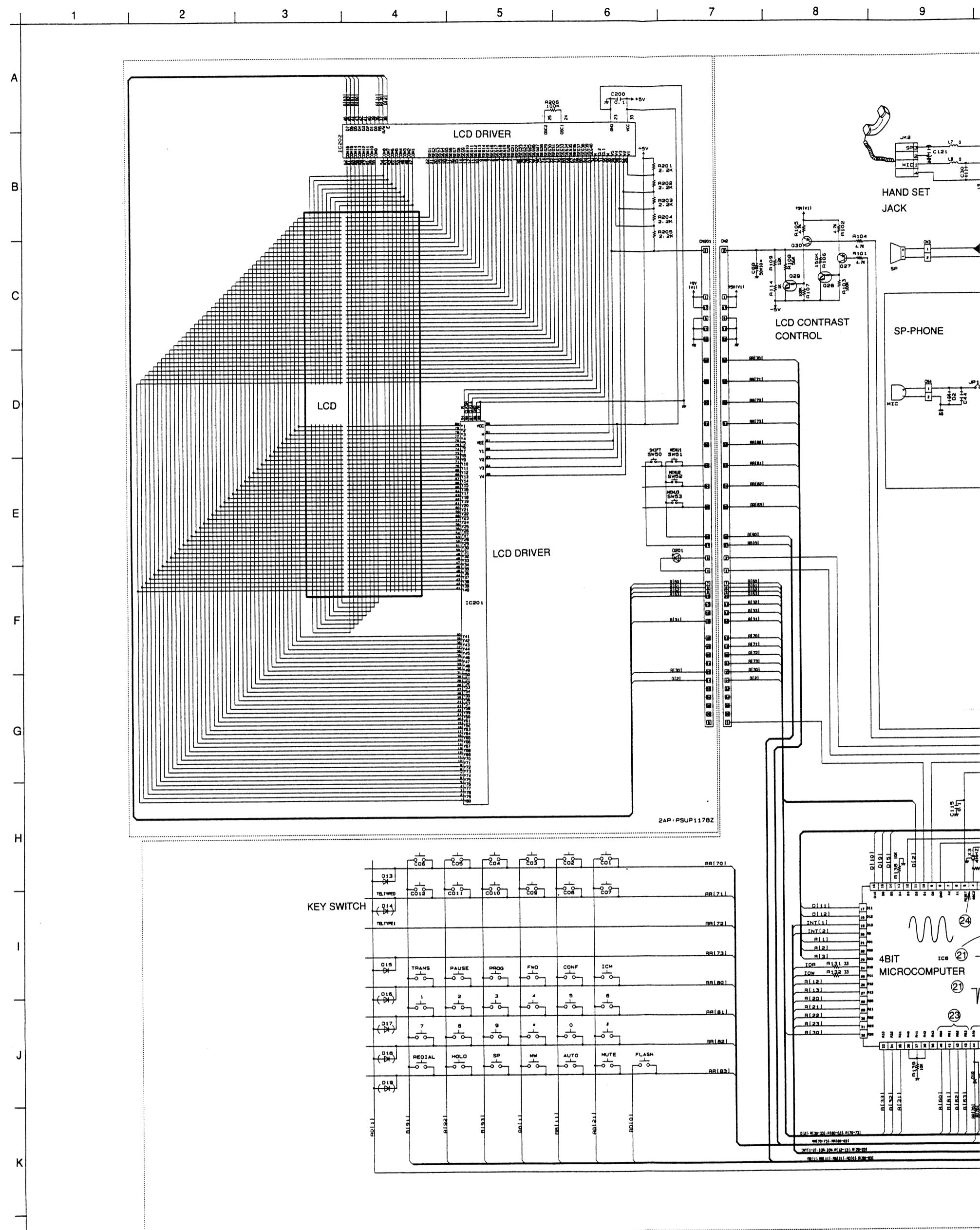


③⑤ -WR/STB

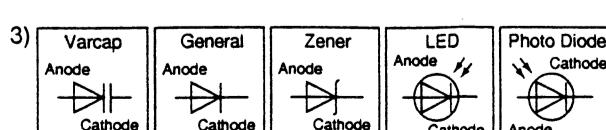


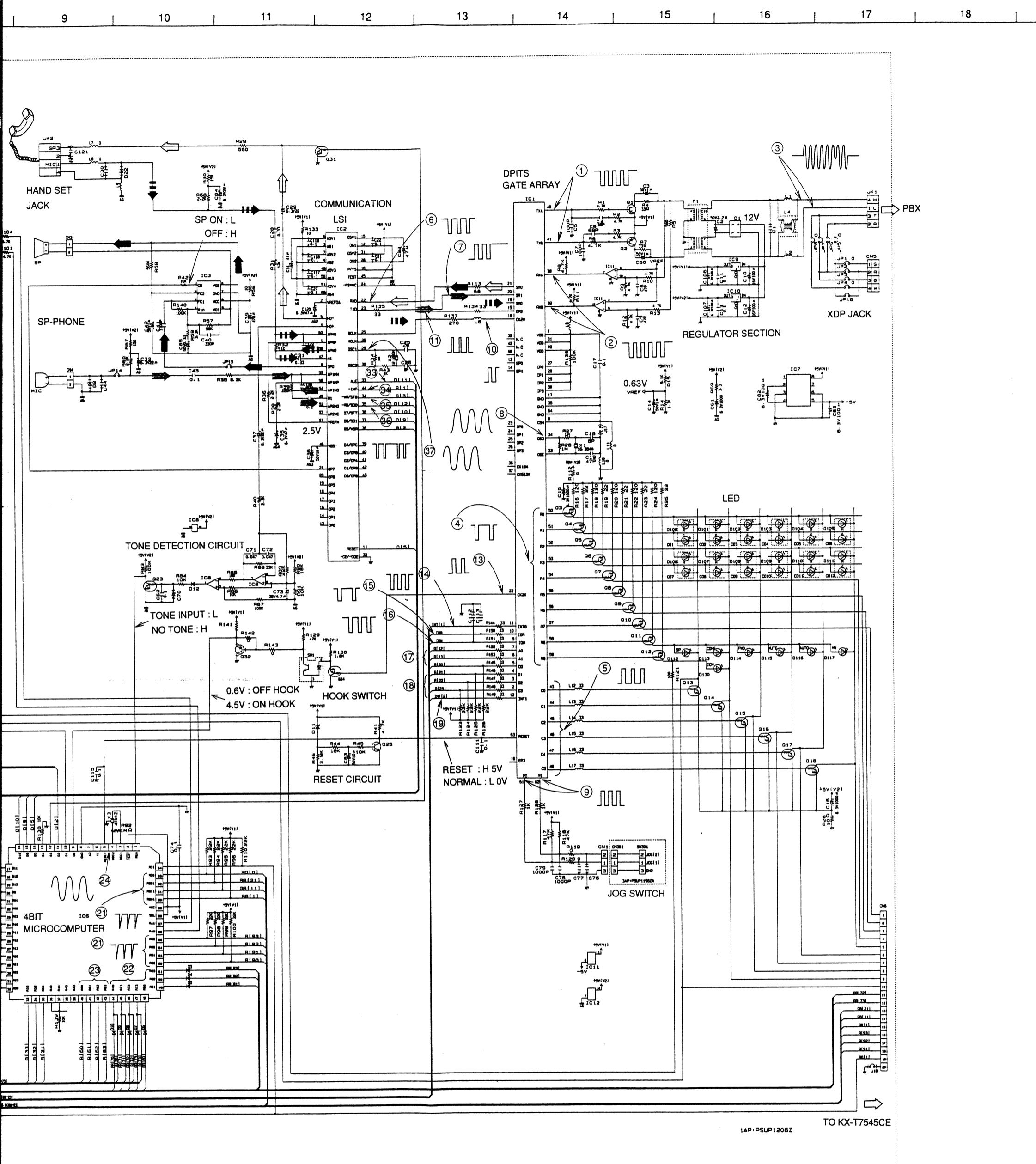
③⑥ -RD/SD0



**Notes:**

- DC voltage measurements are taken with oscilloscope from ground line.  
(Waiting condition.)
- The schematic diagram may be modified at any time with the development of new technology.





◀ SP-PHONE RECEPTION  
◀ SP-PHONE TRANSMISSION  
◀ HANDSET RECEPTION  
◀ ▶ HANDSET TRANSMISSION

## PRINTED CIRCUIT BOARD

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

A

B

C

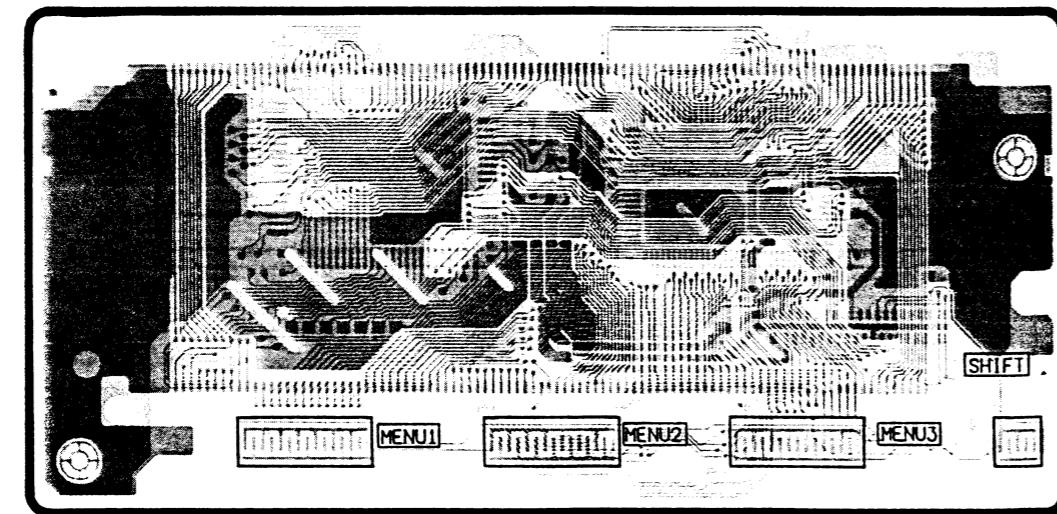
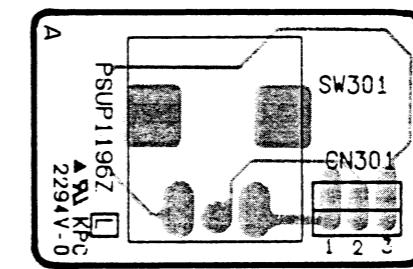
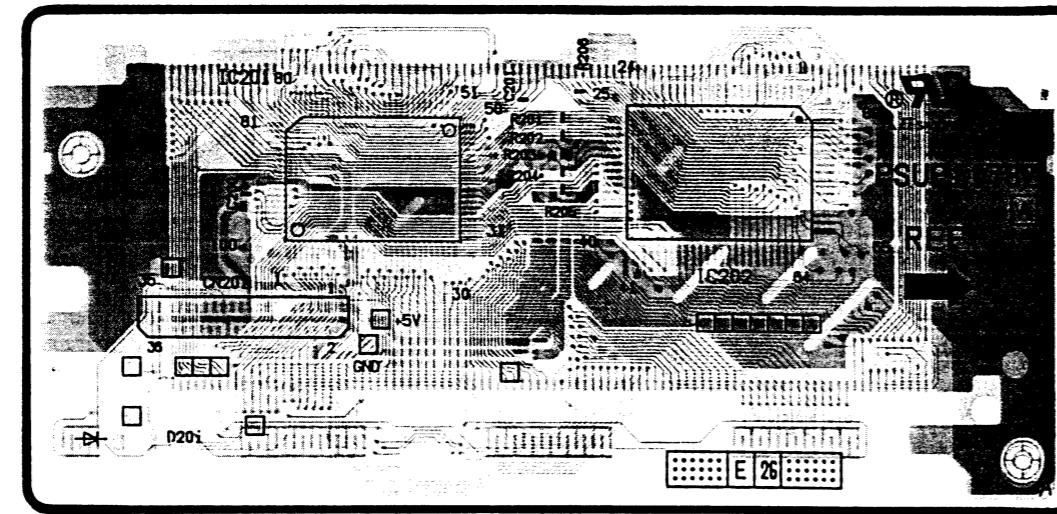
D

E

F

G

H



## PRINTED CIRCUIT BOARD

1 2 3 4 5 6 7 8 9 10 11 12

A

B

C

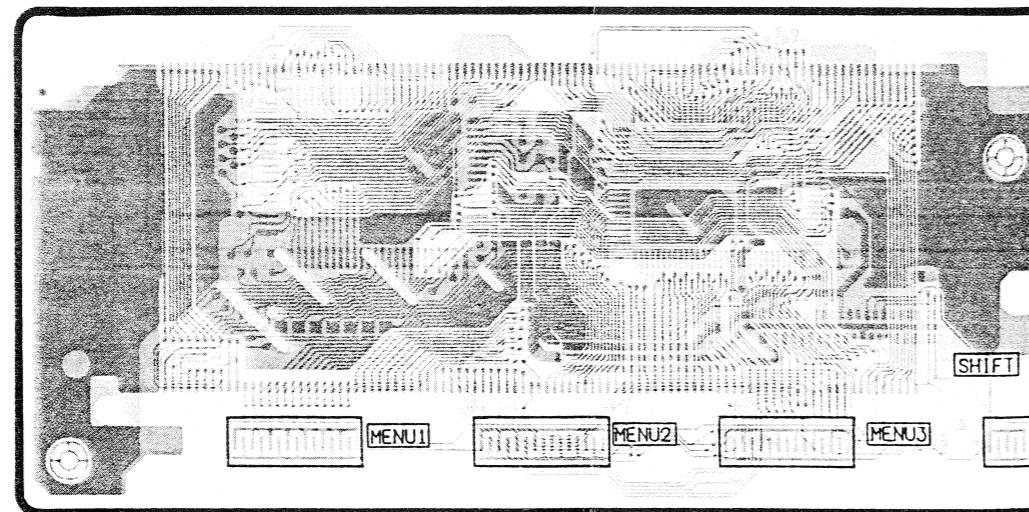
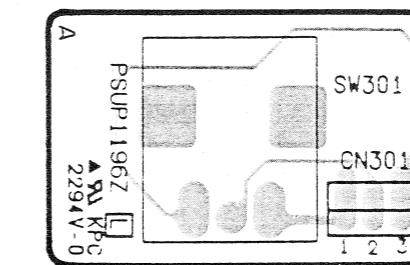
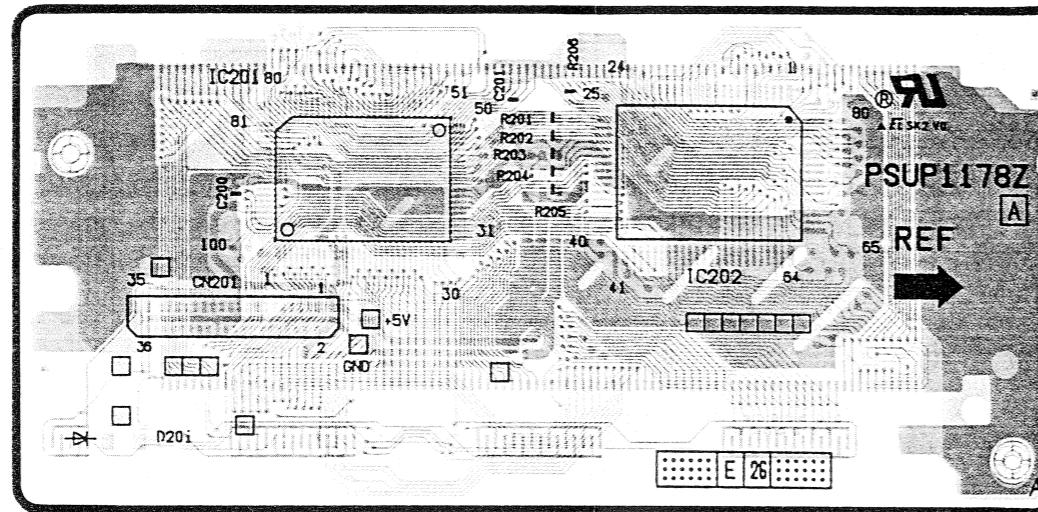
D

E

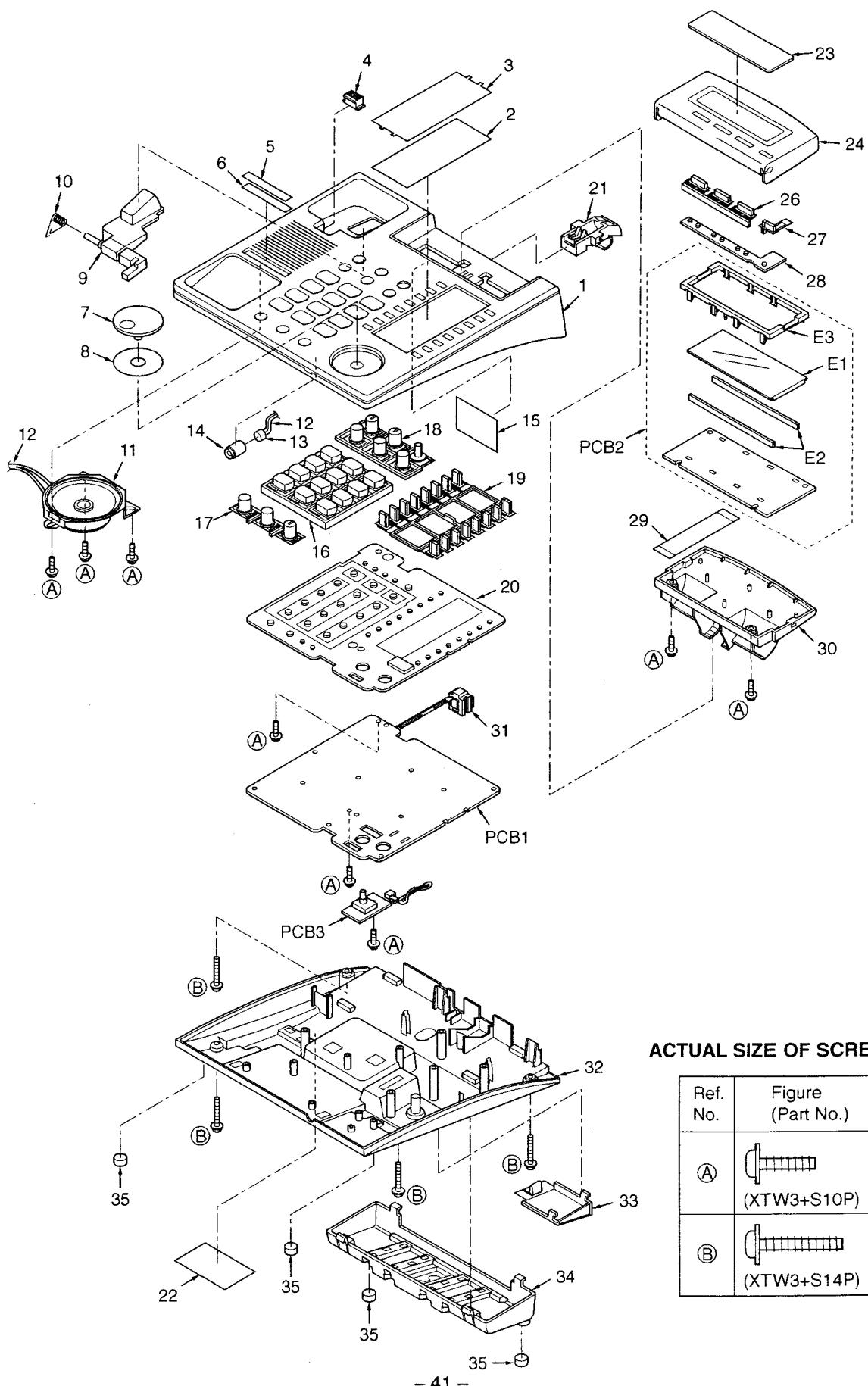
F

G

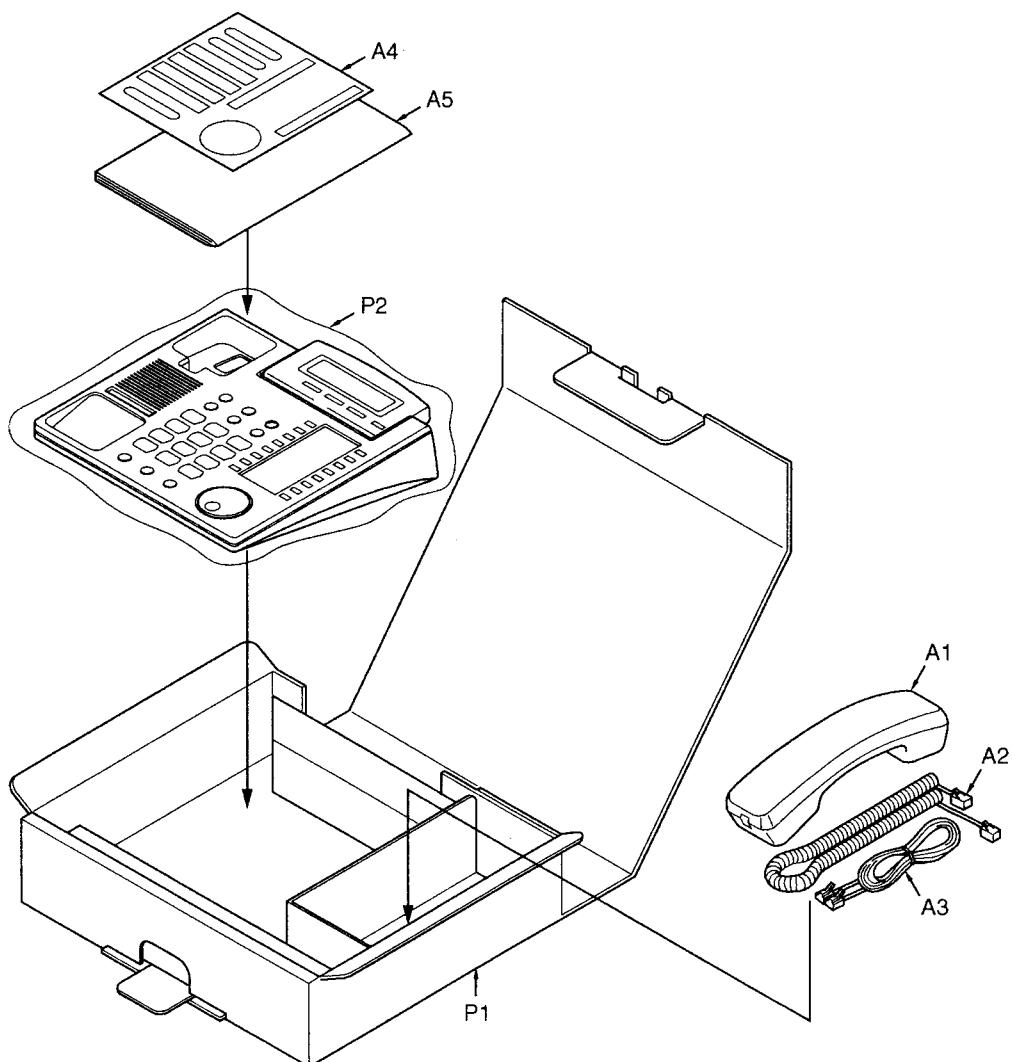
H



## CABINET AND ELECTRICAL PARTS LOCATION



## ACCESSORIES AND PACKING MATERIALS



This replacement parts list is for KX-T7533G/T7533G-B only. Refer to the simplified manual (cover) for other areas.

REPLACEMENT PARTS LIST				Ref. No.	Part No.	Part Name & Description	Pcs	
<u>Model KX-T7533G/KX-T7533G-B</u>								
<b>Notes:</b>								
1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.								
2. The S mark indicates service standard parts and may differ from production.								
3. RESISTORS & CAPACITORS				28	PSSX1007Z	KEY SWITCH	1	
Unless otherwise specified.				29	PSJE1014Z	FLAT CABLE	1	
All resistors are in ohms (Ω) k=1000Ω, M=1000kΩ				30	PSKF1032Z1	CABINET, GRILL LOWER (KX-T7533G)	1	
All capacitors are in MICRO FARADS(μF) P=μF				30	PSKF1032Z2	CABINET, GRILL LOWER (KX-T7533G-B)	1	
*Type & Wattage of Resistor				31	PSJJ1T014Z	JACK, TEL. (WITHOUT CONNECTOR)	1	
Type				31	PSJJ1T016Z	JACK, TEL. (WITH CONNECTOR)	1	
ERC:Solid	ERX:Metal Film	PQ4R:Carbon		32	PSKF1031Z1	CABINET, LOWER (KX-T7533G)	1	
ERD:Carbon	ERG:Metal Oxide	ERS:Fuseable Resistor		32	PSKF1031Z2	CABINET, LOWER (KX-T7533G-B)	1	
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor		33	PSKK1027Z1	LID (KX-T7533G)	1	
Wattage				33	PSKK1027Z2	LID (KX-T7533G-B)	1	
10,16,18W	14,25,14W	12,1/2W	1:1W 2:2W 3:3W	34	PSKL1007Z1	STAND (KX-T7533G)	1	
*Type & Voltage of Capacitor				34	PSKL1007Z2	STAND (KX-T7533G-B)	1	
Type				35	PSHA1002Z	RUBBER PARTS, FOOT	4	
ECCF: Semiconductor	ECCD,ECKD,ECBT,PQCBC : Ceramic							
ECGS:Styrol	ECQE,ECQV,ECQG : Polyester							
PQCUV:Chip	ECEA,ECSZ : Electrolytic							
ECQMS:Mica	ECQP : Polypropylene							
Voltage								
ECQ Type	ECQG Type	ECSZ Type	Others					
1H: 50V	05: 50V	0F:3.15V	0J: .6.3V	1V: .35V				
2A:100V	1:100V	1A:10V	1A: .10V	50,1H:50V				
2E:250V	2:200V	1V:35V	1C: .16V	1J: .63V				
2H:500V		0J:6.3V	1E:25:25V	2A: .100V				
Ref. No.	Part No.	Part Name & Description		Pcs	ACCESSORIES AND PACKING MATERIALS			
CABINET AND ELECTRICAL PARTS								
1	PSKM1057Z1	CABINET BODY (KX-T7533G)		1	A1	PQJX2PSL01Y	HANDSET (KX-T7533G)	1
1	PSKM1057Z2	CABINET BODY (KX-T7533G-B)		1	A1	PQJX2PML08Z	HANDSET (KX-T7533G-B)	1
2	PSGD1030Y	CARD, DIAL		1	A2	PSJA1043Z	CORD, HANDSET (KX-T7533G)	1
3	PSHR1151Z	TRANSPARENT PLATE		1	A2	PSJA1043Y	CORD, HANDSET (KX-T7533G-B)	1
4	PQKE82Z1	HANGER (KX-T7533G)		1	A3	PQJA48W	CORD, TEL.	1
4	PQKE82Z2	HANGER (KX-T7533G-B)		1	A4	PSGD1041Z	CARD, OVERLAY	1
5	PQHR576Z	TRANSPARENT PLATE		1	A5	PSQX1552Y	INSTRUCTION BOOK	1
6	PQHP532X	CARD, TEL. NO.		1	P1	PSPK1476Z	GIFT BOX (KX-T7533G)	1
7	PSBC1017Z1	BUTTON, JOG DIAL (KX-T7533G)		1	P1	PSPK1479Z	GIFT BOX (KX-T7533G-B)	1
7	PSBC1017Z2	BUTTON, JOG DIAL (KX-T7533G-B)		1	P2	XZB30X50A01	BAG, POLYETHYLENE	1
8	PSHR1164Y	SPACER		1				
9	PSBH1002Z1	BUTTON, HOOK (KX-T7533G)		1				
9	PSBH1002Z2	BUTTON, HOOK (KX-T7533G-B)		1				
10	PSUS1006Z	SPRING		1				
11	PQAS65P28Z	SPEAKER		1				
12	PSJS02Q35Z	CONNECTOR		2				
13	RJM142Z	MICROPHONE	S	1				
14	PSHG112ZZ	RUBBER PARTS, MIC COVER		1				
15	PSHX1133Z	COVER (KX-T7533G only)		1				
16	PSBX1058Z1	BUTTON, DIAL (KX-T7533G)		1				
16	PSBX1058Z2	BUTTON, DIAL (KX-T7533G-B)		1				
17	PSYX1002Z1	BUTTON, 3KEY (KX-T7533G)		1				
17	PSYX1002Z2	BUTTON, 3KEY (KX-T7533G-B)		1				
18	PSBX1060Z1	BUTTON, 6KEY (KX-T7533G)		1	D1	PQVDS1ZB60F1	(DIODES)	1
18	PSBX1060Z2	BUTTON, 6KEY (KX-T7533G-B)		1	D3-10	RLS71	DIODE(SI)	8
19	PSBX1061Z1	BUTTON, 16KEY (KX-T7533G)		1	D11	PSVDUDZ39B	DIODE(SI)	1
19	PSBX1061Z2	BUTTON, 16KEY (KX-T7533G-B)		1	D12,13	RLS71	DIODE(SI)	2
20	PSSX1010Z	KEY SWITCH		1	D15	RLS71	DIODE(SI)	1
21	PSBE1002Z1	BUTTON, ADJUST (KX-T7533G)		1	D100-111	PQVDPY1204	LED	12
21	PSBE1002Z2	BUTTON, ADJUST (KX-T7533G-B)		1	D112-117	PQVDBR1102W	LED	6
22	PSGT1656Z	NAME PLATE (KX-T7533G)		1	D130	PQVDPY1102	LED	1
22	PSGT1663Z	NAME PLATE (KX-T7533G-B)		1				
23	PSGP1031Z1	PANEL, LCD (KX-T7533G)		1				
23	PSGP1031Z2	PANEL, LCD (KX-T7533G-B)		1	CN1	PSJP03A05Z	(CONNECTORS)	1
24	PSGG1011Z1	GRILLE (KX-T7533G)		1	CN2	PSJS36A61Z	CONNECTOR, 3P	1
24	PSGG1011Z2	GRILLE (KX-T7533G-B)		1	CN5	PSJP04A05Z	CONNECTOR, 36P	1
25	Not Used			1	CN3,4	PSJP02A05Z	CONNECTOR, 4P	2
26	PSBX1044Z1	BUTTON, 3KEY (KX-T7533G)		1	CN6	PSJS20A74Z	CONNECTOR, 2P	1
26	PSBX1044Z2	BUTTON, 3KEY (KX-T7533G-B)		1				
27	PSBC1013Z1	BUTTON, SHIFT (KX-T7533G)		1				
27	PSBC1013Z2	BUTTON, SHIFT (KX-T7533G-B)		1				

## KX-T7533G/KX-T7533G-B

This replacement parts list is for KX-T7533G/T7533G-B only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs	Ref. No.	Part No.	Part Name & Description	Pcs
C2	ECEV1HA2R2N	(CAPACITORS) 2.2	1	JP1	PQ4R18XJ000	(RESISTORS) 0	1
C3	PSCEV1HA010	1	1	JP4	PQ4R18XJ000	0	1
C4	ECUV1H680JCV	68P	1	JP5	PQ4R18XJ000	0	1
C5	ECUV1H101JCV	100P	1	JP8	PQ4R18XJ000	0	1
C6	ECUV1H680JCV	68P	1	JP13,14	ERJ3GEY0R00	0	2
C7	ECUV1H101JCV	100P	1	L7,8	PQ4R10XJ000	0	2
C8,9	ECUV1H470JCV	47P	2	L10,11	ERJ3GEY0R00	0	2
C10	PSCEV1EA101	100	1	L12-17	ERJ3GEYJ330	33	6
C11	PQCUV1E104MD	0.1	1	R1,2,3	ERJ3GEYJ472	4.7K	3
C12	PSCEV1EA101	100	S	R4	ERJ3GEYJ330	33	1
C13	PQCUV1E104MD	0.1	1	R5	ERJ3GEYJ561	560	1
C14	PSCEV1HA010	1	S	R6	ERJ3GEYJ472	4.7K	1
C15,16	PSCEV0JA102	1000	2	R7	ERJ3GEYJ330	33	1
C17	PQCUV1E104MD	0.1	S	R8,9	ERJ3GEYJ472	4.7K	2
C18	ECUV1H080DCV	8P	1	R10-13	ERJ3GEYJ472	4.7K	4
C19	ECUV1H470JCV	47P	1	R14	ERJ3GEYJ132	1.3K	1
C21,22	ECUV1H104ZVF	0.1	S	R15	ERJ3GEYJ912	9.1K	1
C23	PSCEV0JA470	47	1	R16	ERJ3GEYJ121	120	1
C25	ECUV1H470JCV	47P	1	R17	ERJ3GEYJ220	22	1
C26	ECUV1H080DCV	8P	1	R18	ERJ3GEYJ121	120	1
C27	ECUV1H104ZVF	0.1	S	R19	ERJ3GEYJ220	22	1
C28	PQCUV1C334ZF	0.33	S	R20	ERJ3GEYJ121	120	1
C29	PSCEV0JA220	22	1	R21	ERJ3GEYJ220	22	1
C31	PQCUV1C334ZF	0.33	1	R22	ERJ3GEYJ121	120	1
C32	PSCEV0JA220	22	1	R23	ERJ3GEYJ220	22	1
C33	PQCUV1E104MD	0.1	1	R24	ERJ3GEYJ121	120	1
C34,35	PSCEV0JA470	47	2	R25	ERJ3GEYJ220	22	1
C36	PSCEV1HA100	10	1	R26	PQ4R18XJ100	10	1
C37	PSCEV0JA220	22	1	R27	ERJ3GEYJ102	1K	1
C39	PSCEV0JA471	470	1	R28	ERJ3GEYJ105	1M	1
C40	PQCUV1H331JC	330P	1	R29	ERJ3GEYJ561	560	1
C41	PQCUV1H332KB	0.0033	1	R30	ERJ3GEYJ151	150	1
C42	PSCEV1HA010	1	1	R31	ERJ3GEYJ123	12K	1
C43	PQCUV1E104MD	0.1	1	R32	ERJ3EKF9102	91K	1
C61	PSCEV0JA102	1000	1	R34	ERJ3GEYJ105	1M	1
C62	PQCUV1E104MD	0.1	1	R35	ERJ3GEYJ822	8.2K	1
C63	PSCEV1HA100	10	1	R36	ERJ3GEYJ222	2.2K	1
C71,72	PQCUV1E473MD	0.047	S	R38	ERJ3GEYJ222	2.2K	1
C73	PSCEV1E4A47	4.7	1	R39	ERJ3GEYJ224	220K	
C74	PQCUV1E104MD	0.1	1	R40	ERJ3GEYJ222	2.2K	1
C78,79	ECUV1E102JCV	0.001	2	R41	ERJ3GEYJ472	4.7K	1
C80	PSCEV1HA010	1	1	R42	ERJ3GEYJ103	10K	1
C82,83	PSCEV0JA101	100	2	R43	ERJ3GEYJ102	1K	1
C84	PSCEV0JA220	22	1	R44	ERJ3GEYJ183	18K	1
C85	PSCEV1HAR33	0.33	1	R45	ERJ3GEYJ103	10K	1
C88	PSCEV1HA100	10	1	R46	ERJ3GEYJ392	3.9K	1
C106,107	PSCEV0JA101	100	2	R56	PQ4R18XJ100	10	1
C108	PQCUV1H121JC	120P	1	R57	ERJ3GEYJ563	56K	1
C111	ECUV1H104ZVF	0.1	S	R58	ERJ3GEYJ564	560K	1
C115	ECUV1H104ZVF	0.1	S	R59	ERJ3GEYJ332	3.3K	1
C117,118	ECUV1H104ZVF	0.1	S	R60	ERJ3GEYJ222	2.2K	1
C119	ECUV1H104ZVF	0.1	S	R67	ERJ3GEYJ151	150	1
C120	PSCEV0JA470	47	1	R68	ERJ3GEYJ222	2.2K	1
C122	ECUV1H391JCV	390P	1	R69	PQ4R18XJ3R3	3.3	1
JK1	PSJJ1T011Z	(JACKS)	1	R83	ERJ3GEYJ104	100K	1
JK2	PSJJ1T012Z	JACK	1	R84,85,86	ERJ3GEYJ103	10K	3
L1,2,5,9	PQLQR1LT	(COIL)	4	R87	ERJ3GEYJ104	100K	1
L6	PQLQR1RM601	COIL	1	R88	ERJ3GEYJ333	33K	1
		COIL		R89	ERJ3GEYJ223	22K	1
				R90	ERJ3GEYJ183	18K	1
				R91	ERJ3GEYJ103	10K	1
				R92	ERJ3GEYJ105	1M	1
				R93-99	ERJ3GEYJ223	22K	7
				R100	ERJ3GEYJ223	22K	1
				R101,102	ERJ3GEYJ472	4.7K	2
				R103	ERJ3GEYJ104	100K	1
				R104,105	ERJ3GEYJ472	4.7K	2
				R106	ERJ3GEYJ154	150K	1
				R107	ERJ3GEYJ104	100K	1
				R108	ERJ3GEYJ563	56K	1
				R109	ERJ3GEYJ123	12K	1

This replacement parts list is for KX-T7533G/T7533G-B only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs	Ref. No.	Part No.	Part Name & Description	Pcs
SWITCH BOARD PARTS							
R110	ERJ3GEYJ223	22K	1	PCB3	PSWP3T7531G	SWITCH BOARD ASS'Y (RTL)	1
R112	PQ4R18XJ000	0	1	SW301	PSSRCA102Z	(SWITCH) SWITCH	1
R113	ERJ3GEYJ680	68	1	CN301	PSJS03Q36Z	(CONNECTOR) CONNECTOR, 3P	1
R114	ERJ3GEYJ102	1K	1				
R117,118	ERJ3GEYJ473	47K	2				
R119	ERJ3GEY0R00	0	1				
R120	ERJ3GEY0R00	0	1				
R121	ERJ3GEYJ101	100	1				
R123-126	ERJ3GEYJ223	22K	4				
R127,128	ERJ3GEYJ102	1K	2				
R129	ERJ3GEYJ473	47K	1				
R130	ERJ3GEYJ182	1.8K	1				
R131,132	ERJ3GEYJ330	33	2				
R133	PQ4R18XJ100	10	1				
R134,135	ERJ3GEYJ330	33	2				
R136	ERJ3GEYJ104	100K	1				
R137	ERJ3GEYJ271	270	1				
R138,139	ERJ3GEYJ103	10K	2				
R140	ERJ3GEYJ104	100K	1				
R142,143	ERJ3GEY0R00	0	2				
R144	ERJ3GEYJ330	33	1				
R145-149	ERJ3GEYJ330	33	5				
R150-153	ERJ3GEYJ330	33	4				
T1	PSLT9Z4A	(TRANSFORMER) TRANSFORMER	1				
X1	PSVCCR1638B7	(CRYSTAL OSCILLATOR & CERAMIC FILTER)	1				
X2	PSVCCR1228B7	CRYSTAL OSCILLATOR	1				
X3	PQVBTCS4.00M	CERAMIC FILTER	1				
LCD BOARD PARTS							
PCB2	PSWP2T7533G	LCD BOARD ASS'Y (RTL)	1				
IC201	PQVILC7931D	(ICs)	1				
IC202	PSVI44780B24	IC	1				
		IC	1				
D201	PSVD111R820R	(DIODE) DIODE(SI)	S 1				
CN201	PSJS36A61Z	(CONNECTOR) CONNECTOR, 36P	1				
C200	PQCUV1E104MD	(CAPACITORS) 0.1	S 1				
R201-205	PQ4R10XJ222	(RESISTORS)	5				
R206	PQ4R10XJ104	2.2K 100K	1				
E1	EDD104U32AAG	(OTHERS)	1				
E2	PSSE1011Z	LIQUID CRYSTAL DISPLAY	2				
E3	PSHR1132Z	CONNECTOR GUIDE	1				

I, (Q) KXT7533 G/G-B  
Printed in Japan  
IT

# Service Manual

*Supplement-1*

DIGITAL PROPRIETARY TELEPHONE  
FOR DIGITAL SUPER HYBRID SYSTEM

9611 #2014194

**KX-T7533G, KX-T7533G-B**

9562 #2016111 White Version

**KX-T7536G, KX-T7536G-B**

Black Version

Please file and use this supplement manual together with the service manual for Model No.KX-T7533G/KX-T7533G-B  
Order No.KMS9808296C2 and KX-T7536G/KX-T7536G-B, Order No.KMS9808297C2.

## **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public.  
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians.

Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious  
injury or death.

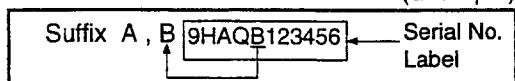
## **CHANGES**

### **Subject:**

Suffix	Reason for suffix change
A → B	Improvement for the performance.

### **Location of suffix:**

(Example)



# Panasonic

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■ REPLACEMENT PARTS LIST ..... Change from the original pages 43-45. (KX-T7533G/KX-T7533G-B)  
 Change from the original pages 45-46. (KX-T7536G/KX-T7536G-B)

Reason for Change		Following 1-8 reasons are indicated on the Notes in the bottom column.	
1. Improve performance		Note:	
2. Change of material or dimension		1. Part with mark ※1 has been seen in the original page 34 or 36, section 7/G and page 39 or 41, section 9/B or 11/B.	
3. To meet approved specification			
4. Standardization			
5. Addition			
6. Deletion			
7. Correction			
8. Other			
Interchangeability Code		Following V-Z interchangeabilities are indicated on the Notes in the bottom column.	
Parts		Set Production	
V	Original New	Early (before change) Late (after change)	Original or new parts may be used in early or late production sets. Use original parts until exhausted, then stock new parts.
W	Original New	Early (before change) Late (after change)	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X	Original New	Early (before change) Late (after change)	New parts only may be used in early or late production sets. Stock new parts.
Y	Original New	Early (before change) Late (after change)	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
Z	Other		

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes	Time of change (Suffix)
	Original Part	New Part					
<b>ACCESSORIES AND PACKING MATERIALS</b>							
A4	PSGD1041Z	PSGD1041Y	CARD, OVERLAY	1		1 X	
<b>MAIN BOARD PARTS</b>							
C121	-----	PQCUV1C224KB	CAPACITOR, 0.22μF	1	※1	5	
R5	ERJ3GEYJ561	ERJ3GEJ471	RESISTOR, 470Ω	1		1 X	B
R14	ERJ3GEYJ912	ERJ3GEJ682	RESISTOR, 6.8kΩ	1		1 X	B
R16	ERJ3GEYJ121	ERJ3GEJ221	RESISTOR, 220Ω	1		1 X	B
R17	ERJ3GEYJ220	ERJ3GEJ820	RESISTOR, 82Ω	1		1 X	B
R18	ERJ3GEYJ121	ERJ3GEJ221	RESISTOR, 220Ω	1		1 X	B
R19	ERJ3GEYJ220	ERJ3GEJ820	RESISTOR, 82Ω	1		1 X	B
R20	ERJ3GEYJ121	ERJ3GEJ221	RESISTOR, 220Ω	1		1 X	B
R21	ERJ3GEYJ220	ERJ3GEJ820	RESISTOR, 82Ω	1		1 X	B
R22	ERJ3GEYJ121	ERJ3GEJ221	RESISTOR, 220Ω	1		1 X	B
R23	ERJ3GEYJ220	ERJ3GEJ820	RESISTOR, 82Ω	1		1 X	B
R24	ERJ3GEYJ121	ERJ3GEJ221	RESISTOR, 220Ω	1		1 X	B
R25	ERJ3GEYJ220	ERJ3GEJ820	RESISTOR, 82Ω	1		1 X	B
R56	PQ4R18XJ100	PQ4R18XJ390	RESISTOR, 39Ω	1		1 X	B
<b>LCD BOARD PARTS</b>							
IC201	PQVILC7931D	PSVILC7931D	IC (KX-7533G/T7533G-B only)	1		7	

Reason for Change \_\_\_\_\_  
 Interchangeability Code \_\_\_\_\_

N.T.(Q)  
 KXT7533G/G-B  
 KXT7536G/G-B  
 Printed in Japan

# Service Manual

*Supplement-2*

DIGITAL PROPRIETARY TELEPHONE  
FOR DIGITAL SUPER HYBRID SYSTEM

KX-T7531G, KX-T7531G-B

KX-T7533G, KX-T7533G-B

KX-T7536G, KX-T7536G-B

White Version

Black Version

Please file and use this supplement manual together with the Service Manual Model is mentioned below.

## ⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Model	Order No.
KX-T7531G/T7531G-B	KMS9808295C2
KX-T7533G/T7533G-B	KMS9808296C2
KX-T7536G/T7536G-B	KMS9808297C2

9563 1138/134  
9611 21411514  
9562 2161111

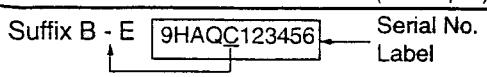
## CHANGES

### Subject:

Model	Suffix	Reason for suffix change
KX-T7531G/G-B	C → D	Improvement of performance. (change of the IC)
	D → E	Addition of the spacer in the lower cabinet.
KX-T7533G/G-B	B → C	Addition of the spacer in the lower cabinet.
	C → D	Improvement of performance. (change of the IC)
KX-T7536G/G-B	B → C	Addition of the spacer in the lower cabinet.
	C → D	Improvement of the performance. (change of the IC)

### Location of suffix:

(Example)



**Panasonic**

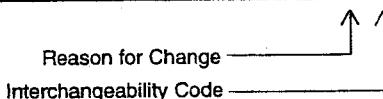
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## REPLACEMENT PARTS LIST

Reason for Change	Following 1-8 reasons are indicated on the Notes in the bottom column.	
1. Improve performance	<b>Note:</b> Part with mark *1 has been changed at the same time.	
2. Change of material or dimension		
3. To meet approved specification		
4. Standardization		
5. Addition		
6. Deletion		
7. Correction		
8. Other		
Interchangeability Code	Following V-Z interchangeabilities are indicated on the Notes in the bottom column.	
Parts	Set Production	Description
V Original <del>Original</del> Early (before change) New <del>New</del> Late (after change)		Original or new parts may be used in early or late production sets. Use original parts until exhausted, then stock new parts.
W Original <del>Original</del> Early (before change) New <del>New</del> Late (after change)		Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X Original <del>Original</del> Early (before change) New <del>New</del> Late (after change)		New parts only may be used in early or late production sets. Stock new parts.
Y Original <del>Original</del> Early (before change) New <del>New</del> Late (after change)		Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
Z Other		

### KX-T7531G, KX-T7531G-B

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes	Time of change (Suffix)
	Original Part	New Part					
<b>CABINET AND ELECTRICAL PARTS</b>							
20	PSSX1010Z	PSSX1010Y	KEY SWITCH	1		1	X
32	PSKF1031Y1	PSKF1031S1	CABINET, LOWER (KX-T7531G)	1	*1	1	X
32	PSKF1031Y2	PSKF1031S2	CABINET, LOWER (KX-T7531G-B)	1	*1	1	X
	-----	PSHX1154Z	SPACER	1		5	
	PSHX1154Z	-----	SPACER	0	*1	6	E
<b>MAIN BOARD PARTS</b>							
IC7	PSV14668A07H	PSV14668A17H	IC	1		1	X
C39	PSCEV0JA470	PSCEV1HA4R7	CAPACITOR, 4.7μF	1		1	X
C106	PQCUV1H152KB	-----	CAPACITOR, 0.0015μF	0		6	
R118	BRJ3GEYJ103	-----	RESISTOR, 10kΩ	0		6	



## ● KX-T7533G, KX-T7533G-B

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes	Time of change (Suffix)
	Original Part	New Part					
<b>CABINET AND ELECTRICAL PARTS</b>							
20	PSSX1010Z	<b>PSSX1010Y</b>	KEY SWITCH	1		1 X	
32	PSKF1031Z1	<b>PSKF1031T1</b>	CABINET, LOWER (KX-T7533G)	1	*1	1 X	
32	PSKF1031Z2	<b>PSKF1031T2</b>	CABINET, LOWER (KX-T7533G-B)	1	*1	1 X	
	-----	<b>PSHX1154Z</b>	SPACER	1		5	C
	PSHX1154Z	-----	SPACER	0	*1	6	
<b>MAIN BOARD PARTS</b>							
IC6	PSVI40612A04	<b>PSVI40612A18</b>	IC	S	1	1 X	D

## ● KX-T7536G, KX-T7536G-B

Ref. No.	Part No.		Part Name & Description	Pcs	Remarks	Notes	Time of change (Suffix)
	Original Part	New Part					
<b>CABINET AND ELECTRICAL PARTS</b>							
20	PSSX1010Z	<b>PSSX1010Y</b>	KEY SWITCH	1		1 X	
32	PSKF1031Z1	<b>PSKF1031T1</b>	CABINET, LOWER (KX-T7536G)	1	*1	1 X	
32	PSKF1031Z2	<b>PSKF1031T2</b>	CABINET, LOWER (KX-T7536G-B)	1	*1	1 X	
	-----	<b>PSHX1154Z</b>	SPACER	1		5	C
	PSHX1154Z	-----	SPACER	0	*1	6	
<b>MAIN BOARD PARTS</b>							
IC6	PSVI40612A04	<b>PSVI40612A18</b>	IC	S	1	1 X	D

Reason for Change \_\_\_\_\_ ↑  
 Interchangeability Code \_\_\_\_\_ ↑

N.T.(Q)  
KXT7531G/G-B  
KXT7533G/G-B  
KXT7536G/G-B  
Printed in Japan

2014/9/4

96A1

ORDER NO. KMS0003615S2

# Service Manual

DIGITAL PROPRIETARY TELEPHONE

Supplement-3

KX-T7533G  
KX-T7533G-B

Please file and use this supplement manual together with the service manual for Model No. KX-T7533G and KX-T7533G-B Order No.KMS9808296C2.

## ⚠ WARNING

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# 1 CHANGES

## 1.1. REPLACEMENT PARTS LIST

*Reason for Change (Symbol:A)* Following 1-8 reasons are indicated on the Notes in the bottom column.

1. Improve performance
2. Change of material or dimension
3. To meet approved specification
4. Standardization
5. Addition
6. Deletion
7. Correction
8. Other

### Note

Mark \*1 has been changed at the same time.

*Interchangeability code (Symbol:B)* Following V-Z interchangeabilities are indicated on the Notes in the bottom column.

Parts	Set Production	Description
V Original New	→ Early (before change) → Late (after change)	Original or new parts may be used in early or late production sets. Use original parts until exhausted, then stock new parts.
W Original New	→ Early (before change) → Late (after change)	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
X Original New	→ Early (before change) → Late (after change)	New parts only may be used in early or late production sets. Stock new parts.
Y Original New	→ Early (before change) → Late (after change)	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
Z Other		

Ref. No.	Parts No.		Part Name & description	Pcs	Remarks	Notes	Time of change (Suffix)
	Original Part	New part					
<b>CABINET AND ELECTRICAL PARTS</b>							
9	PSBH1002Z1	PSBH1002Y1	BUTTON, HOOK (KX-T7533G)	1	*1	4	X
9	PSBH1002Z2	PSBH1002Y2	BUTTON, HOOK (KX-T7533G-B)	1		4	X
15	PSHK1133Z	-----	COVER (KX-T7533G only)	0	*1	6	
<b>ACCESSORIES AND PACKING MATERIALS</b>							
A5	PSQX1552Y	PSQX1552X	INSTRUCTION BOOK	1		1	X